

OPERATIONALIZING MULTISECTORAL NUTRITION IN MOZAMBIQUE:
THE ROLE OF STRATEGIC SYSTEM THINKING
“STRATEGIES AND INSIGHTS FROM A COMPLEXITY PERSPECTIVE”

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By

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OPERATIONALIZING MULTISECTORAL NUTRITION IN MOZAMBIQUE:

The Roles of Strategic System Thinking

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This developmental evaluation research project carried out within the Multisectoral Action Plan for the Reduction of Chronic Undernutrition in Mozambique begins to address the gap in understanding regarding the operationalization process and proposes strategic system thinking to advance it. A main contribution of this dissertation is a “proof of concept” for the feasibility and exceptional insight to be gained by conducting such a study in a mode 2 fashion, using an emergent design responding to the evolving context and examining emergent research questions generated through direct engagement.

Using a developmental evaluation approach with a group of key national stakeholders, the insights generated emerged from ongoing evaluation of multiple strategies to address operationalization challenges. Research methods included direct participation, document review, semi-structured and informal interviews, and the use of the Q methodology. Data were collected prospectively during 15 months in-country. Data analysis involved the use of several techniques and procedures based on a grounded theory approach. Multiple lenses, comprehensive and selective, were applied. The use of complexity concepts, system thinking and strategic capacity fostered additional insights to help dealing with complex systems. This dissertation also proposed a conceptualization of operationalization as a process of facilitating actions with the potential to induce tipping points and increase the performance level of a system.

By using a case study design in which multiple embedded units of analysis were examined, the insights have implications for both research and practice. Of relevance to over fifty Scaling Up Nutrition countries, this dissertation illustrates how strategic, intentional, complexity-aware actions by a small group of actors in a national system can produce meaningful outcomes, and how those can be assessed and accounted for. Based on this practical experience in Mozambique, a framework for strategic system thinking was developed; it can provide a valuable tool to help practitioners develop more effective strategies to influence various functions and elements of the nutrition policy process. The framework proposes strategic dimensions and a hierarchy of processes to be considered to address gaps and problems in complex systems. The framework also raises awareness on different types of catalysts for change and different order effects.

BIOGRAPHICAL SKETCH

Isabelle Michaud-Létourneau has pursued doctoral studies in the Program of International Nutrition in the Division of Nutritional Sciences. Her passion for international nutrition originated in several projects that she undertook in Bolivia, Senegal and Brazil while studying to earn a Bachelor of Sciences in nutrition (2003) at Laval University in Quebec, Canada, where she is from. After graduation, she worked as a clinical nutritionist for several years in pediatric and geriatric hospitals in Montreal. She was then awarded the Rotary World Peace Fellowship (2006-08) to undertake studies in Peace and Conflict Resolution along with a Masters in Maternal and Child Health (M.P.H.) at the University of North Carolina at Chapel Hill. For her Masters, she carried out a study on the motivations of community volunteers to continue their work with mothers' groups after the food security program of Save the Children ended in northern Mozambique. It was the beginning of a long passionate story working in different nutrition- and health-related projects in this country.

For her doctoral studies, continuing working with people in Mozambique was a natural course, fulfilling her desire to keep working towards improving real-world challenges while also carrying out research activities. During that time, Isabelle was privileged to work as the nutrition advisor for the head of the Department of Nutrition at the Ministry of Health, primarily regarding issues related to the implementation of the *Multisectoral Action Plan for the Reduction of Chronic Undernutrition in Mozambique (PAMRDC)*. This role placed her at the center of the development of the operationalization and coordination of this multisectoral action plan; it became the major focus of her doctoral research project. This unique opportunity also allowed her to better define the type of engagement she wishes to pursue in research and practice.

*From the bottom of my heart, to my younger brother Pierre-Yann and my grandmother Alice.
You were my inspiration and gave me strength all the way along this journey. I miss you.*

*To my dearest husband José and sons Manuel-Yann and Estéban.
You are my way forward.*

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My interests in negotiation led me to discover the work of John Forester through both his books and classes. I appreciated the depth of his approach and was impressed on how he could fill a blackboard with concepts, linking them and bringing a new awareness to students. He made me discover part of the planning world and inspired me to challenge myself. I am particularly thankful for his encouragement to write a role-playing exercise in the context of Mozambique, pursuing previous ideas of the value and applicability of the tools, concepts and skills in negotiation but still with a vague notion of how this could play out. John’s support in framing this exercise helped define my teaching approach for the development of specific skills.

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LIST OF ABBREVIATIONS AND ACRONYMS

CAADP	Comprehensive Africa Agriculture Development Programme
CCES	Complex Co-Evolving System
CFIR	Consolidated Framework for Implementation Research
CONSAN	National Council for Food Security and Nutrition
DANIDA	Danish Development Assistance
DE	Developmental Evaluation
DHS	Demographic and Health Survey
DON	Department of Nutrition
DPA	Provincial Directorate of Agriculture
DPS	Provincial Directorate of Health
ESAN	Food and Nutrition Security Strategy
FAO	Food and Agriculture Organization
FSN	Food Security and Nutrition
GT-PAMRDC	Working Group of the Multisectoral Action Plan for the Reduction of Chronic Undernutrition
HIV	Human Immunodeficiency Virus
HKI	Helen Keller International
IAM	Institute of Agricultural Research in Mozambique
INE	National Institute of Statistics
ISCISA	Higher Institute of Sciences of Health
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MIC	Ministry of Industry and Commerce
MICS	Multiple Indicator Cluster Survey
MOH	Ministry of Health
NGO	Non-governmental Organization
NPF	Nutrition Partners Forum
NY	New York
OECD	Organization for Economic Co-operation and Development
OFSP	Orange-flesh Sweet Potato
PAMRDC	Multisectoral Action Plan for the Reduction of Chronic Undernutrition
PARPA	Poverty Reduction Strategy
PASAN	Action Plan for Food and Nutrition Security
PESS	National Strategic Health Plan
PM	Prime Minister
REACH	Renewed Efforts Against Child Hunger
SETSAN	Technical Secretariat for Food and Nutrition Security
SC	Save the Children
SUN	Scaling Up Nutrition
TOR	Terms of Reference
UCODIN	Unit of Coordination of the Integrated Development of Nampula
UN	United Nations
UNICEF	United Nations Children's Fund
WFP	World Food Program
WHO	World Health Organization

INTRODUCTION

This dissertation is a tribute to the hard work carried out by a group of very committed individuals from the FSN community in Mozambique striving to implement a multisectoral action plan for the reduction of chronic undernutrition, through the development of multiple efforts using strategic actions to operationalize this action plan. Operationalization is a crucial process, well acknowledged in the practice world, but often overlooked in several bodies of literature. Strategic capacity has been identified in the practice world and has been introduced to the nutrition community, but its potential has not been deeply explored. Thus, this case study in Mozambique aims to begin filling in theoretical gaps through exploring the use of strategic thinking to develop actions to achieve various objectives and increase the understanding of the operationalization process in a context of multisectoral work. The present introduction describes the global burden of undernutrition and the global challenge of multisectoral coordination, followed by the background on the study context of Mozambique. Then, the purpose and objectives of this research are presented with details on the theoretical and methodological orientation.

PART I: GLOBAL CONTEXT

Global burden of undernutrition

In the last decades, the international community has paid an increased attention to the different forms of undernutrition in mothers and children because of the recognition of its powerful and harmful short-term and long-term consequences. Undernutrition has been found to be a significant contributor to child mortality [1-3], and to have deleterious effects on cognitive development [4], school achievement, economic productivity in adulthood and maternal reproductive outcomes [5]. Undernutrition in developing countries is also leading to an increasing prevalence of non-communicable diseases [6, 7], as those countries go through the so-called nutrition transition [8]. Additional burdens are carried by women who are doubly vulnerable because of higher nutritional requirements during pregnancy and lactation as well as higher vulnerability to poverty [9]. The impacts on women directly affect their children, perpetuating the cycle of undernutrition to following generations. To illustrate the scale of the problem, in 2011, a total of 314 million children less than 5 years of age were estimated to be stunted and 258 million to be underweight (mildly, moderately, or severely in both cases) in 141 developing countries. Those same countries had less than a 5% chance of meeting the Millennium Development Goal 1 target about hunger [10], despite the implementation of multiple interventions. Therefore, this continuing problem highly justifies sustained global attention, focus on key interventions, and improvements to current actions.

Global challenge of multisectoral coordination

The 2008 *Lancet* Nutrition Series shed light on several efficacious interventions to address maternal and child undernutrition and survival, which included the promotion of breastfeeding, counseling to improve complementary feeding, conditional cash transfers, and

strategies for supplementation of vitamin A [11]. Articles from this series also highlighted remaining challenges within the national [12] and international systems [13]. Major challenges at the national level included weak coordination among many actors, lack of political commitment, limited strategic and operational capacity, and acting at scale to increase coverage [12].

A follow-up *Lancet* Nutrition Series published in 2013 presented an update on the situation. Gillespie et al (2013) emphasized that coordination at different levels continued to be an important challenge facing many developing countries, along with the previous above-mentioned challenges; however, they noted an increase in political discourse about the problem of undernutrition. They proposed a framework to create an enabling environment¹ to accelerate the reduction of undernutrition, which included the importance of incentivizing and delivering horizontal coherence (multisectoral coordination) [14]. Multisectoral strategies to improve nutrition continue to be a global trend for developing countries with development institutions promoting and supporting such strategies. An example is the Renewed Efforts Against Child Hunger (REACH) approach that was established by FAO, WHO, UNICEF and WFP, and joined later by IFAD, to accelerate the progress of ending child hunger and undernutrition. The REACH approach involves two facilitators who enable joint planning processes for the national scale-up of selected interventions [15], most often through supporting multisectoral initiatives. Also, the Scaling-Up Nutrition (SUN) movement is a global push for action and investment to improve maternal and child nutrition; it provides principles and direction to countries [16]. Again, the in-country SUN movement is often linked to multisectoral strategies. In a set of three regional meetings of the SUN movement in which a total of 57 countries participated, one of the most important challenges to tackle was coordination between actors and the absence of high level

¹ In this context, an enabling environment was defined as the “political and policy processes that build and sustain momentum for the effective implementation of actions that reduce undernutrition.” (Gillespie, 2013)

multisectoral coordination mechanisms [17].

Of relevance to multisectoral strategies, it is also important to consider that the field of nutrition has had past experiences with multisectoral approaches, called multisectoral nutrition planning, beginning in the 1970s when malnutrition came to be understood as a complex and multi-faceted problem [18]. There is considerable literature about those past experiences and this study will also draw from those experiences whenever relevant. Although recent multisectoral approaches are taking place in a very different world, valuable lessons were learned that could enrich the discussion and should not be lost because, surprisingly or not, many of the lessons from the past experiences apply to today's experiences.

PART II: BACKGROUND OF THE CASE STUDY

Context of the study in Mozambique

The complex and multifaceted causes of the high prevalence of undernutrition among Mozambican children under 5 years of age – 43% are stunted, 15% are underweight and 6% are wasted [19] – are well illustrated when examining some major challenges faced by the Mozambican population. From the total population of 25.2 million inhabitants [20], about 55% of them live below the poverty line [21] and 35% experience chronic food insecurity [22]. About 70% of the Mozambican population lives in rural areas where the main source of income is agriculture. Often agricultural success is compromised because of natural disasters such as floods and droughts [23]. According to the latest Demographic and Health Survey 2011 for Mozambique, 38% of adolescent girls had initiated procreation (had a first live birth or were pregnant). In addition, only 51% of the households drink potable water from safe water supplies, with high disparity between urban (84%) and rural areas (37%) [19]. Therefore, those challenges require sustained actions targeting the immediate causes (such as early pregnancy), underlying causes (such as food insecurity) and basic causes (such as poverty). Due to the various difficulties that fall in different sectors, the reemergence of multisectoral strategies as a favored response in Mozambique and many developing countries does not come as a surprise.

The Government of Mozambique, along with development partners, developed several national multisectoral strategies aiming to improve FSN countrywide; those are presented in **table 1** and described further below. When discussing multisectorality, nutrition, and food security in Mozambique, it imposes to introduce the Technical Secretariat for Food Security and Nutrition (SETSAN). SETSAN was created in 1998, after the Government of Mozambique participated in the 1996 World Food Summit in Rome. SETSAN designed its first Strategy for

Food Security and Nutrition in 1998 (ESAN I) [24]. A follow-up strategy and action plan were approved for 2008-2015 (ESAN II) [25]. SETSAN has a permanent staff, but it also includes members from most of Mozambique's governmental ministries and several international agencies, civil society, and research institutions through the involvement in various working groups. A line ministry (the Minister of Agriculture) assumes its leadership, unlike other countries where leadership is housed in the Prime Minister's Office, President's Office, National Planning Ministry or other supra-ministerial institutions. Internally, discussions have taken place for the creation of a higher authority in Mozambique, the National Council for Nutrition and Food Security (CONSAN), to oversee the implementation of strategies related to FSN. However, higher authorities did not approve the proposal and SETSAN remained under the leadership of the Minister of Agriculture.

Another multisectoral strategy was developed with the leadership of the health sector, mainly the Department of Nutrition: the Multisectoral Action Plan for the Reduction of Chronic Undernutrition (PAMRDC). The Council of Ministers approved this multisectoral action plan in September 2010 [26]. The present study focuses on the development of the operationalization and coordination regarding the PAMRDC.² For the coordination of the implementation of this plan, three groups were formed. Considering SETSAN's mandate and experience in coordination in the area of FSN, and the focus of the PAMRDC on this area, this institution received the formal mandate for the coordination of the PAMRDC. The Council of Ministers requested biannual

² This action plan includes 7 strategic objectives. Objectives 1-4 aim to strengthen interventions having an impact on children's health in the first 2 years of life, women of reproductive age beginning with adolescent girls, pregnant women, and household (to improve access and utilization of foods with a high nutritional value). Objective 5 aims "to strengthen human resources in nutrition." Of major importance to the present study, objective 6 is "to strengthen the national capacity for advocacy, coordination, management and progressive implementation of the PAMRDC." The word "operationalization" is mentioned once at the beginning of the document, as followed: "The activities regarding objectives 5, 6, and 7 will be implemented at central or national level from the beginning of the operationalization of the Plan." Therefore, this action plan considered beforehand some activities that needed to be done for the operationalization of this action plan, but it was not very detailed. Finally, objective 7 aims "to strengthen the food and nutrition surveillance system" (MISAU, 2010).

updates on the status of its implementation. A first official group was created in 2011, a technical working group called GT-PAMRDC, with the general objective of facilitating the planning and implementation of the PAMRDC at the technical level in Mozambique. It included technical people from all government ministries, national and international organizations of the civil society, private sector, donors and UN agencies [27]. A second official group was also created in 2011 as part of the development of the structures and mechanisms for coordination: the Nutrition Partners Forum (NPF). The NPF included representatives from donor institutions, UN agencies and several NGOs. A third core but unofficial group, called informally the “nucleus group,” was created prior to the latter groups and assisted SETSAN in the development of several tasks, which included the set up of the working group GT-PAMRDC. It involved primarily people working in nutrition from the MOH, UN agencies and selected NGOs. At the time of this study, efforts were also invested in the creation of a civil society group, but it was still early in the creation process.

Additional global multisectoral efforts are noteworthy because of their influence in Mozambique and their linkages with the PAMRDC; those are also exposed briefly in **table 1**. Authorities from the Governments of the continent, including Mozambique, endorsed the Comprehensive Africa Agriculture Development Programme (CAADP) that presents a vision for the growth of the agricultural sector, rural development and the attainment of nutrition and food security [28]. Also, the REACH initiative began its activities in July 2012 in Mozambique and is housed within SETSAN [29]. In addition, Mozambique joined the SUN movement in August 2011, and the following year, President Armando Guebuza officially accepted to become a member of the SUN movement Lead Group [30]. Therefore, multisectoral initiatives aiming to

improve food security and nutrition in Mozambique are numerous and a priority for the Government and its development partners.

Table 1: Multisectoral strategies/efforts aiming to improve FSN in Mozambique

Strategy/Effort [Time period]	Goal/Focus
Food Security and Nutrition Strategy (ESAN II) & Action Plan on Food Security and Nutrition (PASAN) [2008-2015]	To guarantee food security for all Mozambicans, allowing for, at all times, physical and economic access to sufficient safe and nutritious food to satisfy their energy needs and food preferences and to live an active and healthy life [25].
Multisectoral Action Plan for the Reduction of Chronic Undernutrition (PAMRDC) [2008-2015(20)]	To accelerate the reduction of chronic undernutrition in children under 5 years of age from 44% in 2008 to 30% in 2015 and 20% in 2020 [26].
Comprehensive Africa Agriculture Development Programme (CAADP)	To stimulate agriculture-led development that eliminates hunger and reduces poverty and food insecurity [28].
Renewed Efforts Against Child Hunger (REACH) Approach [2011-2014(20)]	To provide effective support to countries to achieve the Millennium Development Goals target of halving the rates of child undernutrition (measured as underweight) by 2015 and to sustain a continued reduction beyond that date [29].
Scaling Up Nutrition (SUN) Movement	To meet the global targets established by the 2012 World Health Assembly and that include: increased access to affordable nutritious food, clean water, sanitation, healthcare and social protection; optimal growth of children, demonstrated as reduced levels of stunting and wasting; improved micronutrient status, especially in women and children; and increased adoption of practices that contribute to good nutrition [31].

Multisectoral coordination in Mozambique

A study carried out by Benson (2007) in Mozambique, Nigeria, and Uganda evaluated the performance of agencies in charge of cross-sectoral national nutrition coordination and determined how critical those agencies were to national efforts to reduce the problem of malnutrition; such agency was SETSAN in Mozambique. Benson assessed the three functions for which those agencies were created: cross-sectoral coordination, advocacy to sustain political commitment to address malnutrition, and resource mobilization. He concluded that those

agencies failed to have meaningful outcomes on malnutrition, primarily due to one function that was ineffective: “the function of maintaining continued political commitment for efforts to address malnutrition.” He also added that “cross-sectoral coordination only becomes an important issue if the problem of malnutrition itself is treated as politically important, thereby stimulating action in various sectors” [32] (p.S329). His data were collected in 2002 in Mozambique; thus, examining the situation almost a decade later appears a highly relevant exercise. In addition, the new mandate of SETSAN regarding the PAMRDC is also important to consider. In the past, during Benson’s study, the mandate of SETSAN regarding coordination was under ESAN II (and is still now along with the PAMRDC). The research presented in this dissertation further explored some aspects of coordination, but with a different research approach.

Preliminary work³ in Mozambique in 2009 revealed that SETSAN’s capacity to carry out coordination was perceived as weak by numerous actors at the central level. They universally acknowledged the need for better coordination, but held varying views of the meaning, forms and institutional responsibilities and capacities related to coordination. Considering Benson’s conclusions, coordination challenges matter when there is a political commitment. In the case in which coordination is perceived as weak by a majority of stakeholders involved at the central level, regardless of political commitment, it remains critical to pay attention to the perceptions of those practitioners. Therefore, the motivations for this study came from a perceived need in this policy community to gain a better understanding of the range of issues involved in developing the coordination related to the PAMRDC, and to develop a shared understanding of how these issues might be managed. This is especially important considering that about 50 countries are now part of the SUN movement and committed to intensify the actions to scale up nutrition.

³ I have carried out informal interviews with about 20 stakeholders working at the central level in Mozambique in June 2009 and continued ongoing dialogue with several of those actors afterwards.

PART III: PURPOSE, OBJECTIVES, AND RESEARCH ORIENTATION

Purpose and objectives

The purpose of this research was to investigate the coordination and operationalization processes carried out to advance the implementation of the PAMRDC through the development of various efforts by a group of key stakeholders at the central level in Mozambique.

Objective 1: To assess the extent to which a national workshop, planned through intentionally strategic processes, produces meaningful outcomes in a national system. Both processes and outcomes of this effort, as well as attribution, will be examined (chapter 3).

Objective 2: To describe and reflect on the efforts to operationalize the PAMRDC and assess how those efforts advanced different decision functions of the nutrition policy process(chapter 4).

Objective 3: To investigate the perspectives of key national stakeholders on the main issues regarding the operationalization and the coordination of the PAMRDC, their related challenges and strategies to address them (chapter 5).

The ultimate goal was to produce “actionable knowledge⁴” along the research process that could help address several challenges and advance the implementation of the PAMRDC as well as similar efforts in over fifty countries engaged in the Scaling Up Nutrition movement.

⁴ Actionable knowledge is defined as “knowledge that can help identify, characterize, and solve real-world problems.” It is a concept proposed under mode 2 research that will be discussed in the review of selected literatures. (Pelletier, 2013)

Theoretical and methodological orientation

This thesis presents a multi-framework perspective in which the experience in Mozambique is examined through several complementary frameworks or lenses to provide a better account and analysis of the work carried out and assess its implications for research and practice. Several bodies of literature, namely, policy process, complexity concepts, mode 2 research, and implementation science support the theoretical and methodological orientation and enrich the analysis. The review of key documents from those literatures also reveals several gaps that this research is contributing to fill. First, a robust and well-established framework of the policy process is considered in order to locate the critical issues in this case, including the fact that the country is proceeding with an action plan that has not been legislatively mandated by a distinctive nutrition policy. Second, the implementation of this multisectoral action plan involves working within a large national system with many organizations and stakeholders: the efforts of this nutrition community exhibit the properties of a complex adaptive system. Thus, I used concepts from this literature to gain insight on the dynamics within this community and the potential for complexity-aware strategies, implemented by a sub-set of stakeholders, to enhance the operationalization process. Third, this research is explicitly conducted under the so-called mode 2 form of knowledge production because this is the most appropriate approach when working within complex systems, seeking to produce actionable knowledge and seeking to maximize the utilization of such knowledge in real-time by members of the policy community. . Finally, this multisectoral action plan involves the implementation of a large array of interventions in addition to the building and operationalization of a system that supports all of them. Thus, frameworks from implementation science have been consulted to identify useful constructs not included in the three other sources described above. The use of several

complementary frameworks, rather than relying on a single framework, a single disciplinary perspective or a single theory bounded within a discipline, is a distinctive feature of this research and is consistent with the norms of the policy sciences [33], mode 2 knowledge production [34, 35] and transdisciplinary science [36-38].

CHAPTER I: REVIEW AND APPLICATION OF SELECTED LITERATURES

This chapter presents a review of selected literatures that provide the foundation for the present research and begin to apply several concepts to the case study of Mozambique. First, lessons and elements that influence various dimensions of the policy process in nutrition are highlighted. A comprehensive meta-framework, the policy sciences, is used to situate the work within the broader nutrition policy process in Mozambique. Second, complexity concepts are presented, followed by mode 2 research. Additionally, a core meta-framework from the evolving field of implementation science is introduced and a major gap is identified in this literature.

Nutrition policy process

Through past and more recent experiences, the field of nutrition has developed an increased awareness of the importance of understanding the nutrition policy processes. The following quote from Pines (1982) regarding past multisectoral nutrition experiences illustrates several lessons still drawn upon and applied today:

“Nutrition is both an intellectual and political process. Neglect or inadequate response to political aspects explains much of the multisectoral approach’s weakness in affecting policy. Until a government, and agencies within it, take nutrition problems seriously, studies and plans remain ignored” [39] (p.276).

The first lesson is that reaching a deep commitment is essential to achieving progress in nutrition. Recent research further refines concepts such as *political attention*, *political commitment* and *system-wide commitment*, which are discussed in chapter 4. The second lesson is that increasing our understanding of the nutrition policy process is critical, among researchers and practitioners, in order to be able to influence it. The main actors involved in nutrition at the national level would benefit from being able to identify key elements and analyze dynamics in order to influence them, leading to the third lesson that bridging research and practice is essential for this endeavor. This is important especially considering that Gillespie et al. (2013) highlighted

a current scarcity of studies on nutrition policy processes, partly due to a gap of two decades until the re-emergence of studies at the turn of the new century [14]. A fourth related lesson concerns strategies. A study including data from twenty countries identified the range of factors having influenced the nutrition agenda. A major finding was that numerous structural factors, often considered as the most difficult to act upon, could be “molded, aligned, and/or circumvented through strategic action on the part of the mid-level actors” [40] (p.S59). Policy actors had found strategies and tactics that played “a crucial role in strengthening commitment, coherence, consensus, and/or coordination in relation to the nutrition agenda” [40] (p.S59). The ability to use strategies and tactics has been termed “strategic capacity:”

“This ability ... includes the human and institutional capacity to build commitment and consensus toward a long-term strategy, broker agreements and resolve conflicts, respond to recurring challenges and opportunities, build relationships among nutrition actors, undertake strategic communications with varied audiences, and other tasks” [40] (p.S68).

Therefore, actors can play a critical role in influencing different aspects of the nutrition policy process through developing different strategies and tactics. The present study focuses on the roles of strategic capacity to advance the operationalization of a multisectoral action plan.

Although knowledge and understanding of the nutrition policy process has increased in recent years, it is still fragmented and without an agreed upon framework for thinking about the different elements and dimensions involved. Thus, literatures on public policy and other disciplines provide useful definitions and theoretical insights. The domain of public policy is widely spread across multiple literatures that include a plethora of frameworks, models and theories aiming to explain the whole policy process or part of it. Some models disaggregate the process into functions, others into stages, phases or decision functions; there are no clear boundaries to separate them, making their distinction difficult. Nonetheless, the use of models

facilitates the “understanding of policy-making by breaking the complexity of the process into a limited number of stages and sub-stages” [41]. Therefore, some of those models are used in this dissertation to help clarify concepts and make sense of the complexity.

The policy sciences [42] has guided many studies on the policy process and is used as the primary framework to examine the case of Mozambique. It originated from the political scientist Harold Lasswell and his colleague Myres McDougal in the 1950s [43] and is still very applicable today; it has also been applied to many different policy contexts, especially in the field of natural resources management. The policy sciences is a comprehensive meta-framework that can help locate the dynamics of a case study and pinpoint critical elements missing or deficient in the policy spectrum. **Figure 1** presents a useful illustration of the policy sciences, presented in the book of Clark [33], an invaluable guide to understanding the policy process in the context of natural resource management, but very applicable to the nutrition context or any discipline.

Figure 1: The policy process

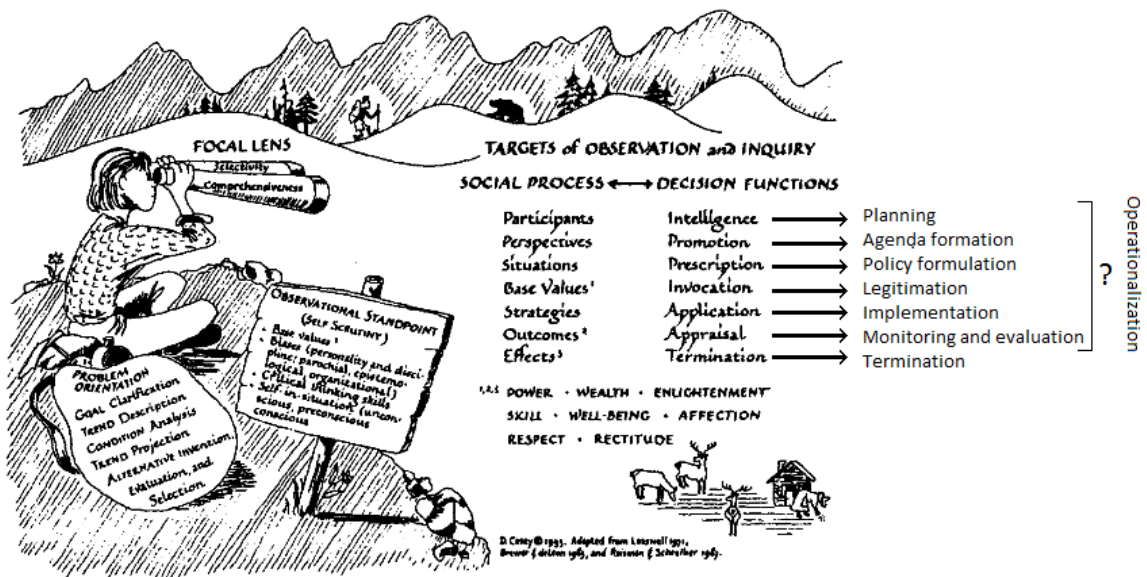


Fig. 1.1. The principle dimensions, categories, and terms of the policy sciences approach to problem solving organized into a framework

Source: Clark (2002)

The policy sciences framework breaks the policy process into decision functions (intelligence, promotion, prescription, invocation, application, appraisal, and termination) that are influenced by social process (participants, perspectives, situations, base values, strategies, outcomes, and effects) [33]. The policy sciences framework allows the policy analyst to use two different focal lenses: selectivity and comprehensiveness. Those two lenses are used in this dissertation. A *selectivity focal lens* is used in chapter 5 to examine the perspective of the actors involved in this policy process, and more specifically the social process. A *comprehensiveness focal lens* is used in chapter 4 to look at the various functions of the policy process, that is, the decision process in light of the various efforts carried out for the operationalization of the PAMRDC. Chapter 3 involves both lenses as it takes a selective look while examining the various processes involved for developing and implementing a national workshop as well as potential outcomes; nonetheless, it also uses a comprehensive lens to situate the various processes into the broader national system.

The terms of the policy sciences are not often used in the actual terminology in nutrition. This field generally recognizes the following policy activities: planning, agenda setting or formation, policy formulation, legitimation, implementation, and monitoring and evaluation [44] (added on the right side of figure 1). Nonetheless, those policy activities used in nutrition are comparable to the decision functions of the policy sciences. The function of operationalization is recognized by practitioners working in nutrition, but not yet in the nutrition academic literature, and appears more implicit within the policy sciences. Several decision functions of the policy sciences in the earlier-range are especially relevant to the present study, namely intelligence (planning), promotion (agenda formation), prescription (policy formulation), and invocation (legitimation); those are discussed further in chapter 4.

To better understand the policy process in nutrition, it is relevant to define several terms.

The term **policy** often refers to many different things,⁵ but in the present study:

Policy is a “... social process of authoritative decision making by which the members of a community clarify and secure their common interests. In other words, the people who interact in a community share expectations about who has the authority to make decisions about what, when and how” [45] in [33] (p.6).

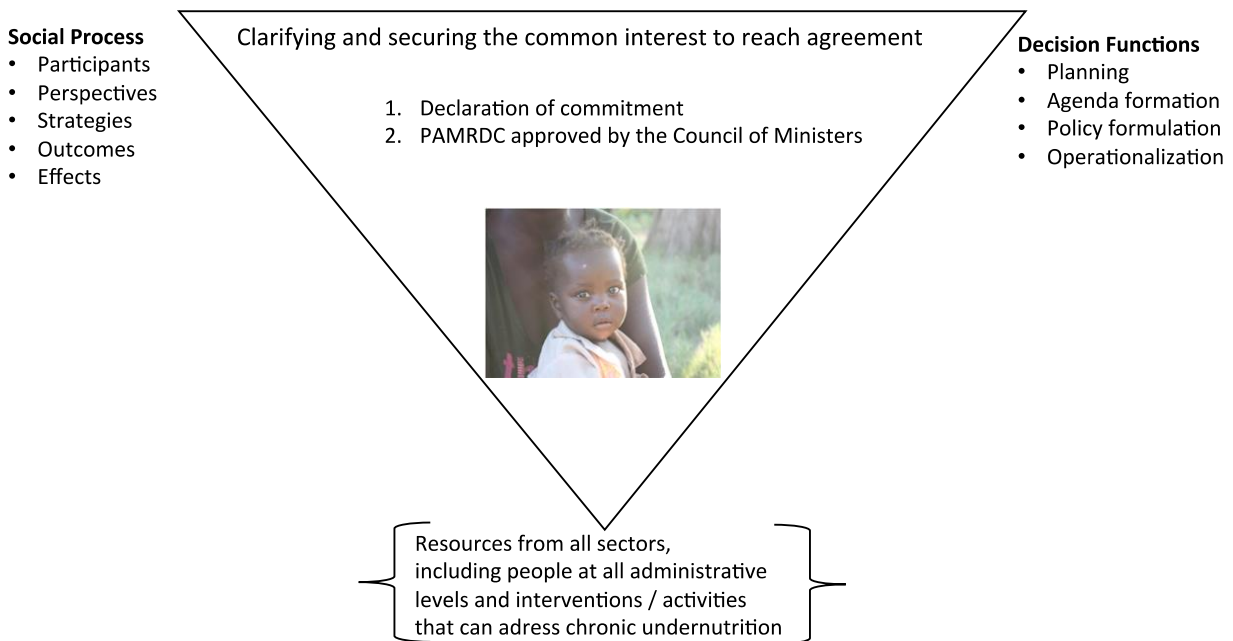
“**Policymaking** is a sequence of many actions by many actors, each with potentially different interests, information, roles and perspectives ... No one can guarantee that policy will “optimize for the system as a whole” – although there may be institutions (such as planning agencies) created to do so.” [33] (p.5)

Policy process is “the ongoing interaction of people in their efforts to achieve what they value is the *policy process*. It is the never-ending, value-laden efforts of people to organize themselves effectively to solve important collective problems and find meaning for themselves.” [33] (p.6)

Figure 2 presents the major focus elements of this dissertation regarding the policy process related to the PAMRDC, how the social process, the decision process (that include the decision functions) and resources are all linked together. At the center is the core of the policy process that involves how different actors constantly negotiate to clarify and secure the common interests and reach agreement.

⁵ In her book, Clark (2002, p. 6) referred to Hogwood and Gunn who distinguished 10 ways in which the term policy was commonly used: “1) field of study, such as wildlife policy; 2) expression of general purpose or desired state of affairs, as in “we shall endeavor to restore endangered species”; 3) specific proposal, such as “we shall establish 10 populations”; 4) decision of government, including specific, on-the-ground management decisions; 5) formal authorization, such as the Endangered Species Act; 6) program, as in “our policy is to set up public-private-partnership”; 7) output, or what government delivers; 8) outcome, or what is actually achieved; 9) theory or model, such as “assumptions about cause and effect relationships” about a problem and how it should be solved; 10) process, as of complexities unfolding over time.”

Figure 2: Dissertation on the nutrition policy process regarding the PAMRDC



Drawing inspired from Clark (2002), p. 15

The PAMRDC in Mozambique can be considered a broader agreement among various actors that was reached through complex processes involving various strategies. The strategy was framed as a 2-step commitment process (agreement). The first step was the signature of a declaration of commitment to accelerate the actions to reduce stunting in Mozambique by the representatives of all the ministries, development partners, civil society, and private sector in the context of a national seminar in nutrition. The second step was the development of the plan by mid-level actors that culminated by the approval of the PAMRDC by the Council of Ministers.

Interests form one element of “perspectives” in this framework and are at the core of negotiation processes. Each actor has its own interests, and those can be related to their person, specific roles in the society or ownership to various groups (e.g. professional, social). We can also distinguish special interests and common interests. **Table 1** presents potential (special) interests from various types of actors working at the central level; a striking interdependency

between those actors is apparent. The bottom of the table also presents the common interest from those actors: in fact, the PAMRDC appears to have met the common interest. All actors have supported the declaration of commitment (step 1) and the PAMRDC (step 2) most likely because it appeared to meet the interests of those multiple actors and institutions. It was also likely to be approved with relative ease, considering that a consultation process had occurred with the different sectors before the national seminar where the signature was done. Not only were most actors meeting some of their own interests by supporting the declaration of commitment and the PAMRDC, but also it was not very binding. In addition, who wants to be left out of an agreement to address chronic undernutrition in Mozambique? Thus, the consultation process, the limited binding and the public view appeared to have helped provide a positive image and obtain a certain commitment from various actors. As will be seen later, using small steps was a productive strategy by nutrition actors in this context, despite the unclear roles and responsibilities regarding the various interventions that brought some challenges.

Groups in which members have a high level of positive interdependence perform better than the groups that have a lower level of interdependence [46]. Innes and Booher also emphasized that “negotiation theory tells us that interdependence among interests is key to moving past zero sum games to creative mutual gain agreements” [47] (p.36). In this dissertation, we acknowledge the interdependence of various actors (and their interests) in Mozambique; however, the focus of the work in Mozambique was not explicit regarding interests. Rather, this dissertation focuses at a higher hierarchical level, at the level of tactics and strategic actions to influence a large group of actors in a national system (not the dialogue *per se*).

Table 2: Interests of various types of actors working at the central level that illustrate interdependency

Issues	Donors	Government - political	Government - technical	NGOs
Development of strategy – action plan (PAMRDC)	- Be able to refer to official documents and strategies from the recipient country to justify their actions (to their home government)	- Have government strategies and plans to facilitate support from donors and NGOs in various areas (e.g. nutrition)	- Improve the situation in their respective area of technical expertise through planning interventions	- Legitimize their work for the donors and have their interventions be part of government strategies
Commitment	- Get commitment from political actors, technical actors, and the system in-country and from their home-country as well	- Maintain good relationship with donors to continue receiving funding (large part of the budget comes from external aid) and support from development partners	- Get commitment from political leaders and system-wide commitment to ensure implementation of interventions	- Get funding commitment from donors to implement their projects
Community-based programs	- Fund implementers that can deliver effective and efficient work that produce impact for the target communities	- Have effective programs implemented by partners that have an impact for their population, but that do not install a parallel system	- Maintain relationship with implementers so there can be an alignment between govt priorities and programs	- Have the govt technical staff collaborate to ease the bureaucracy and respond to their needs (e.g. timely approval)
Funding	- Have their financial resources invested wisely (performance oriented)	- Maintain good relationship and positive image (not corrupted) for donors to receive funding	- Get resources to be able to carry out their work efficiently (from govt, but also from donors)	- Get funding to continue their programs and have flexibility to adjust implementation
Alignment	- Know the government priorities to base and justify their own priorities and be aligned with the priorities of their government (home)	- Have the various development partners (including donors, NGOs, UN) aligned with the govt priorities so there can be synergy among actions	- Have the technical development partners who provide a lot of support being aligned with their priorities	- Be part of the conversation and have their focus technical areas being priorities in the govt strategies
Fight against chronic undernutrition	- Support the initiatives that aim to address this issue, especially the ones that are aligned with their own priorities	- Be perceived favorably by different types of actors, institutions and the broad population and as supporting the fight against child undernutrition	- Have all the different partners support the declaration of commitment and the creation of the plan (their strategy)	- Have the commitment of all the different actors to support an area in which they are very involved with multiple community programs
COMMON INTEREST = PAMRDC				

An assumption is that developing processes using several strategies can increase the likelihood of obtaining positive effects in a national system. Although optimal effects cannot be guaranteed, the strategies should not be neglected and this is the focus of the present dissertation. An additional assumption is that when we understand better the processes that we are part of, we are more likely to produce an effective change in processes, being dialogue and deliberation, decision-making processes, implementation processes, strategic processes, and policy processes. Considering that the policy process is not well understood by a majority of actors, it is another focus of the present dissertation.

Can we talk about “policy process” when there is no policy?

This may sound like a strange question, considering that it appears a policy process would flow from the enactment of a policy. First, the PAMRDC is a multisectoral action plan, thus, it does not have the same status as a policy. However, it is an official document approved by the highest authority in Mozambique, bearing an important status. Second, when we refer to the policy process, there are pre-decision, decision and post-decision periods [33]. The policy process is broader than the strict focus on a policy document; thus, we can talk about a policy process without having a formally enacted policy.

Finally, having an action plan without a formal policy is not an uncommon practice as many developing countries are in a similar situation to Mozambique while trying to address different nutritional problems. The need for an operationalization process appears even amplified in the case of having multiple organizations at various levels working together to implement a multisectoral action plan, such as the PAMRDC in Mozambique. In that case, the structural arrangements of each organization alone do not hold or must be (re)defined to work together, and there is a need to deploy tremendous efforts to develop structures and mechanisms, lines of

authorities, accountability and funding. These situations may be more striking nowadays because of the new reality of a globalized world in which international institutions work with government to develop and implement policies, programs, action plans, and strategies. The operationalization process seems under-developed or not explicit in many relevant literatures, which may also contribute to a limited understanding of what it involves, requires, and how to develop it. The fact that many countries are currently in a similar situation and face many challenges to implement their multisectoral action plans to improve nutrition is noteworthy; the present dissertation examines this situation and seeks to address these major theoretical and practical gaps.

Complexity concepts

Complexity concepts have increasingly made their way into various research disciplines, as many researchers have drawn analogies between complex systems and the systems they seek to study, ranging from molecular systems to human social systems. A complex system is defined as:

“A system in which large networks of components with no central control and simple rules of operation give rise to complex collective behavior, sophisticated information processing, and adaptation via learning or evolution” [48].

A complex system characterized by adaptation is called a complex adaptive system, a term predominantly used because most complex systems are adaptive [48]. Mitleton-Kelly (2006) has pushed the concept of complex adaptive systems further by developing the concept of complex co-evolving systems to emphasize that the systems adapt to changes in their environment, but the relationship is bi-directional and the system also influences the environment. She provided an example of how an institution used a complexity approach of management in “co-creating an innovative environment” that led to outstanding performances

compared to similar institutions using a conventional approach [49]. This insightful example showcased advantages of a deeper understanding of the characteristics of human complex systems to adapt actions. Those characteristics include: “multiple interacting dimensions, nonlinearity, connectivity, interdependence, emergence, feedback, self-organization, co-evolution, exploration of the space of possibilities, far-from-equilibrium, historicity, and path dependence” [50]. Without detailing them, it is important to be aware that those characteristics enable systems to create new order, which for human systems has been proposed “to mean the ability to create and innovate” [49] (p.224). Those characteristics are said to bring uncertainty and unpredictability to complex systems [51]. The case study of Mozambique that involves the implementation of a national multisectoral action plan is without any doubt a complex adaptive system. Better understanding the characteristics of complex adaptive systems helps us to account for and better manage a number of dynamics and effects that occur in a national system, as will be seen in chapter 3.

To simplify the vast territory of complexity, Manson (2001) developed a typology of complexity approaches that proposed three major divisions. One is *aggregate complexity* that is concerned with “how individual elements work in concert to create systems with complex behavior,” which implies that those complex systems are more defined by relationships between their constituents than their individual attributes [52] (p.405). Referring to human systems, this involves that relationships between individuals are more important than individuals’ attributes. The implication is that aggregate complexity challenges the conventional view of the science which assumes that systems are composed of interconnected elements that are stable [52]. Instead, instability means that some mechanism for adaptation needs to be developed in order to respond in an ongoing manner to what emerges in a complex system. For social complex systems

such as the PAMRDC that contain multiple interventions, based on aggregate complexity, each actor constantly adapts or reacts to what emerges and we can think that when information is circulated and feedback is provided at various levels, the adaptation from actors can be improved. In addition, at a national level, we can think that a sub-set of actors can also play a stronger role of adaptation mechanism when they are diverse and organized as each of them bring different perspectives and types of knowledge. Such a group existed at the central level in Mozambique, and followed the evolvement of the implementation of the PAMRDC as well as orchestrated several actions to adapt to emergent context.

An additional insight from literatures of several applied sciences is that not only are the systems we seek to study complex, but also many complexity dimensions are present. First, nutrition problems have long been recognized to be multi-faceted and complex [18]. Second, solutions to complex problems lead to different types of interventions that have complex aspects [53], or can even be considered complex interventions [54, 55]. Third, the implementation process of interventions is also complex [56]. Fourth, the management of projects brings another dimension of complexity [57] by organizations that are also considered complex, bringing a fifth dimension of complexity [58]. Sixth, the process of carrying out research and in which research contributes to practice has also been considered complex [35]. Taking place in all of the above, decision-making (consensus building) [59] and health behavior change [60] have even been compared to complex adaptive systems. Therefore, complexity appears everywhere. In the present research, the recognition of this widespread complexity is not taken as something in which we have no power or control over. Instead, we aim to demonstrate through this case study regarding the implementation of the PAMRDC in Mozambique that strategic complexity-aware

actions by different actors in a national system can improve processes and better account for outcomes.

Mode 2 research

A steadily increasing awareness across multiple disciplines that the study of complex phenomenon and the widespread complexity surrounding us requires a different type of research has led to the development and proposal of new designs, approaches, and methods to help frame this new research and address methodological gaps. A distinction has been made between a traditional knowledge production (mode 1) and a new knowledge production (mode 2) [34, 35, 38, 61], each being legitimate but presenting different features. Several literatures have identified and proposed characteristics of optimal approaches, in line with mode 2 research, and that deserve attention for understanding the methodology used in the present research.

In the field of nutrition, several researchers highlighted “the need for research programs that are action-oriented, transdisciplinary, conducted in real-world conditions, interactive with external actors and institutions and focused at various scales,” during a symposium sponsored by the American Society for Nutrition to discuss new questions, methods and approaches to expand the frontiers of nutrition research [34]. A distinction made was that while mode 1 research aims “to create generalizable or fundamental knowledge that answers scientific questions,” mode 2 research aims “to create actionable knowledge of issues and problems of concern to stakeholders, organizations, communities, or publics at various scales.” Mode 2 research uses approaches that are more engaged and participatory than conventional research and investigates policymakers, analysts, managers, implementers or frontline workers through a “more eclectic range of qualitative and quantitative methods.” It has been proposed for the study of the processes of

policy development and implementation, among others [34]. The present study falls exactly into mode 2 research.

In the field of sustainable development, Martens (2006) discussed the call for a new research paradigm under the model of the “sustainability science” [38], which was motivated by a scientific current that identified a shift from mode 1 to mode 2 as an overall trend in science [62]. This new research paradigm emerged from a need to carry out research adapted to complexity and multidimensionality with the development of a paradigm that “must be able to encompass different magnitudes of scales (of time, space, and function), multiple balances (dynamics), multiple actors (interests) and multiple failures (systemic faults).” Several elements central to this paradigm are: “inter- and intra-disciplinary research; co-production of knowledge; coevolution of a complex system and its environment; learning through doing and doing through learning; system innovation instead of system optimization [38].

In the field of health policy, this call for a different and more engaged type of research has also been expressed with the recognition that little attention has been given on how to carry out such research, including research designs, theories and methods. Walt et al. (2008) highlighted the advantages of carrying out policy analysis prospectively, rather than the more frequent occurrence of retrospective studies. The authors proposed *prospective policy analysis* “to support and manage policy change” [63], thus, implying the involvement of researchers into the policy process. Buse (2008) discussed ways to address theoretical, ethical and practical challenges while undertaking prospective policy analysis [64]. This led researchers to carry out prospective policy analysis regarding different phases of the policy process, for example, to study the development of the nutrition agenda in Vietnam [65] and to study the generation and framing of policy options to address self-poisoning in Sri Lanka [66]. Those studies provide valuable insights relevant to

the research undertaken in Mozambique; however, considering that they studied “functions” of the policy process that were relatively well-defined, namely agenda-setting and policy formulation, the case study of Mozambique involving the operationalization process, an under-recognized and under-developed process requires additional considerations that are discussed in the methodology chapter.

In addition, research in the context of competing claims problems called for an increased linkage between research and practice. Schut et al (2013) proposed that “researchers should try to strategically embed themselves in policy and innovation processes and apply context-sensitive research strategies” [35] (p.3). They also highlighted that intermediaries can connect the worlds of research and policy, which also gives greater flexibility and allows researchers to adapt to the context. These authors mentioned that the combination of process and content knowledge could increase the contribution of research to practice [35].

Furthermore, in numerous disciplines that examine and work with wicked problems in socio-ecological systems, an increasing acknowledgment and acceptability of their intractability, complexity, and the social dimension involved, has led to the proposal of an approach to work with wicked problems:

“Instead of the partial and linear strategy of divide and conquer that aims at searching for definitive solutions, it requires a holistic and process oriented approach that is by nature adaptive, participatory, and transdisciplinary (APT for short). By examining a wicked problem as a microscope, and working with it through an open and heuristic process of collective learning, exploration and experimentation, the APT approach promises to be efficacious in fostering collaborative behavior, reducing conflicts, building trust among all stakeholders and communities involved, and ultimately producing better and more satisfying results. With more empirical research and applications, a more developed APT approach, along with innovative methods and skill sets, will be a competent alternative to the traditional solution seeking approaches” [67] (p.2).

This description of such an approach highlights the importance of social process and collective learning. Carrying out such a process requires a group of people who work with a

mindset focused on regularly assessing the dynamics faced, the evolving challenges and always seeking to develop and adapt strategies to the ever-changing context that cannot be controlled. Such an approach was carried out in Mozambique. In addition, when trying to address wicked problems recognized as complex [67], taking a reductionist approach appears inappropriate to study complex systems, which holds true for practice and research. Therefore, from all those various disciplines, there is a rising agreement that researchers need to study a system as a whole because the system is “more than the sum of its parts” [49, 57, 67]. Thus, optimal approaches for research should allow for taking a system-wide perspective, which is also aligned with mode 2 research. The present study responds to those calls by using an approach that embodies the following features:

- Participatory, action-oriented with a researcher embedded into a real-world setting;
- Transdisciplinary and drawing upon various methods and data collection;
- Taking a system-wide perspective and including actors working at various levels;
- Direct engagement from a researcher collaborating with practitioners;
- Framed as a learning process to constantly reflect and adapt to what emerges;
- Giving attention to processes and outcomes.

The developmental evaluation (DE) approach allowed a methodology with those characteristics and dealing with complex adaptive system. DE sustains the development of an innovation, in the present case, the development of the operationalization of a multisectoral action plan for the reduction of chronic undernutrition in Mozambique. This approach is described in the methodology chapter.

Implementation Science

In recent years, the interest in implementation science has increased tremendously, leading to the development of frameworks and theories seeking to explain the implementation process in order to promote effective implementation. This interest stemmed from a recognition in various fields that the implementation of evidence-based interventions was not producing the expected impacts, partly due to ineffective implementation of known efficacious interventions [12]. The emergence of this transdisciplinary field of study has even led to the journal of its own name: implementation science [68] and the development of new specializations such as integration and implementations sciences [69], and dissemination and implementation research [70]. A glossary has proposed definitions of several implementation terms in the context of evidence-based interventions to address the inconsistencies regarding the definition and use of many terms [71]. Implementation has been defined as “the process of putting to use or integrating evidence-based interventions within a setting” [71] (p.118). The absence of the term “operationalization” or a similar process in this glossary is noteworthy and no updated or more recent version appears available. This absence emphasizes that the process of operationalization is an important gap in several relevant academic literatures, despite being acknowledged by practitioners.

One popular implementation framework is the Consolidated Framework for Implementation Research (CFIR) developed by Damschroder *et al.* (2009) using constructs from a total of 19 different models [56]. This meta-framework generally applies to a single intervention or project and is presented as “a pragmatic structure for approaching complex, interacting, multi-level, and transient states of constructs in the real world by embracing, consolidating, and unifying key constructs from published implementation theories” [56]. CFIR

consists of five major domains that each includes several constructs: intervention characteristics (e.g. complexity), outer setting (e.g. external policy and incentives), inner setting (e.g. structural characteristics), characteristics of individuals (e.g. individual identification with organization), and process (e.g. planning). The “process” domain, especially relevant for this case study, refers to:

“... four essential activities of implementation process that are common across organizational change models: planning, engaging, executing, and reflecting and evaluating.”

There is no strict order to these activities that are often carried out in an incremental and intertwined manner. Engaging is particularly relevant for the present study and is defined as:

“Attracting and involving appropriate individuals in the implementation and use of the intervention through a combined strategy of social marketing, education, role modeling, training, and other similar activities.” [56]

Engaging key individuals who will play a critical role during the implementation is essential. The authors distinguished four types of leaders and emphasized the importance of selecting natural leaders or allowing them to rise: 1) *opinion leaders* can influence the attitudes and beliefs of people, and include experts and peers; 2) *formally appointed internal implementation leaders* have the responsibility of an intervention; 3) *champions* are the ones dedicated to implementation, and working to overcome many challenges, including indifference or resistance to an intervention; 4) *external change agents* are affiliated with an external entity and may include researchers or facilitators who “influence or facilitate decisions in a desirable direction” [56]. All those individuals were identified as playing a certain role regarding implementation. An additional activity relevant to the present study is executing, defined as:

“Carrying out or accomplishing the implementation according to plan” [56].

The authors mentioned several points that may help in assessing the quality of execution, but the description of this activity is limited. CFIR discusses engaging and executing, two

processes that may be the closest to the operationalization process. CFIR does not acknowledge the work involved with operationalization, however, the emphasis given to leaders in this framework and the recognition that they are critical for implementation may hide the tremendous work that leaders carry out as part of a certain operationalization process. Indeed, champions often have a vision of what they want to achieve and they work to overcome many challenges. They are dedicated and will do what it takes for the implementation of an intervention, which may involve carrying out the activities for operationalizing an action plan. Not acknowledging the operationalization process or neglecting its importance to prepare and allow for the executing process is certainly not serving practice. Actors are confronted with multiple challenges and they try to address them without a clear understanding of what it involves or what lay ahead. Therefore, beginning to fill this gap has critical practical implications. This importance is further justified when considering that the process of operationalization was perceived as an important challenge⁶ among stakeholders working in Mozambique for the implementation of the PAMRDC. In addition, a large part of the implementation studies examined the implementation of a single evidence-based intervention or practice. When aiming to implement a broad initiative such as the PAMRDC in Mozambique, implementation frameworks like the CFIR that apply generally to a single intervention have limitations.

Finally, the review of selected literatures presented above raises important points:

- 1) Complexity is everywhere and requires that researchers use appropriate frameworks, approaches, and concepts to study and act upon this widespread complexity, especially when dealing with complex social systems;

⁶ This was expressed multiple times by different stakeholders working at the central level during this study.

- 2) Mode 2 research uses unconventional research methods, designs, and approaches and holds promise to study complexity; it is an evolving transdisciplinary field that has developed relatively fast, providing new possibilities and helping frame this type of research and interpret the results;
- 3) The literatures on policy and implementation science are under-developed on the operationalization process, especially to deal with situations involving multi-stakeholders, multi-interventions, and multi-sectors in a national system. This major gap needs to be filled to better assist the multiple countries currently seeking to operationalize their multisectoral action plan to improve nutrition;
- 4) The absence of a formal policy enacted by parliament related to the PAMRDC has important practical implications that require strategic capacity from actors to influence certain elements of the policy process;
- 5) The coordination of multisectoral strategies still remains a challenge: the coordination of past multisectoral nutrition planning experiences as well as more recent experiences have been characterized as failures. Little attention has been given on what coordination involves and how it can be improved.

The present dissertation aims to address the major gap in understanding the operationalization process within the policy process and how to influence it through the use of strategic capacity. This case study brings many practical, conceptual and theoretical insights.

Structure of the dissertation

The remainder of this dissertation presents five chapters that include the exploration of various perspectives related to this case study. *Chapter 2* describes the research design, objectives, and methodology of this developmental evaluation (DE) research project with a description of the DE approach. *Chapter 3* presents the experience of a national workshop on community nutrition that is one embedded innovation within a broader innovation to advance the operationalization of the PAMRDC. The processes of the development, planning, and implementation of this workshop using DE are presented with outcomes of these efforts. *Chapter 4* explores the experience of moving forward the broad operationalization of this multisectoral action plan, by presenting an analysis based on the decision process dimension of the nutrition policy process. Several functions of the decision process are presented along with some efforts that influence those, and factors having contributed to advance multisectoral nutrition work in Mozambique. *Chapter 5* examines the perspectives on challenges and strategies of a group of key national stakeholders who worked at the central level to advance the coordination, operationalization, and implementation of this multisectoral action plan. The Q methodology allowed for the identification of distinct perspectives that are detailed through a narrative. This analysis brings to light parts of the social process dimension of this nutrition policy process. Finally, a *conclusion* chapter discusses and integrates all the different pieces of this dissertation to draw the overall findings of this DE research project, with an opening for future directions.

CHAPTER 2: METHODOLOGY

This chapter presents the methodology of this study, better characterized as a DE research project. First, I briefly introduce how I became involved in this context, which explains how this study became possible and highlights several aspects of working in mode 2 research. Second, the research design is presented with some characterizing features. Third, the objectives and sub-questions are introduced. Fourth, several considerations of studying complex adaptive systems are offered with an example of *emergence* to illustrate an important particularity of this project. Finally, the use of DE in Mozambique is explained.

How did I become involved in this context?

Faced with limited human resources in nutrition, the department of nutrition at the MOH requested support from the Danish Embassy (DANIDA) in Maputo for short-term technical assistance in the areas of coordination and implementation of the PAMRDC. The government of Denmark was one of the major donors in nutrition, mainly through the support to the PAMRDC. Because of my previous engagement with several projects in nutrition in Mozambique, and my prior attendance to numerous meetings (several stakeholders knew my interest in coordination and started inviting me to meetings), a proposal came to involve me at the MOH. I was offered the work to provide direct technical assistance, as a full-time counterpart to the head of the department of nutrition regarding the PAMRDC. I carried out this function from September 2011 to May 2012. My work involved participating in hundreds of meetings related to coordination as well as different programs and interventions in the context of the implementation of the PAMRDC. Such engagement allowed me to interact with and develop trusting relationships with the stakeholders included in this study. It also allowed me to develop a rich understanding of the complex dimensions of operationalization and coordination of this multisectoral action plan and

the main issues at stake. I took this opportunity to tailor my research project to this large endeavor. Therefore, I became directly involved and played the role of a researcher-participant-facilitator. I acted as a researcher by studying different elements of the policy process, as a participant while having a seat at the table to discuss the implementation of this multisectoral action plan, and as a facilitator through facilitating consultation and negotiating agreements in the development of several efforts by this community. Studying those processes in such depth while being at the core of the work would never have been possible as an outsider. A strong argument to emphasize this point stems from how I originally began studying coordination as an outsider when I arrived to Mozambique. Despite having a strong understanding of the context as a result of having worked on health-related projects in this country sporadically for four years and being involved with some of these actors since my arrival seven months prior to the beginning of my work at the MOH, I still struggled in trying to develop data collection tools that I was satisfied with. I felt I was only staying at the surface level of what coordination, operationalization and implementation of this plan involved. Working at the MOH was an asset for this study and an opportunity to dive to a deeper level. The discovery of Patton's book on DE [72] also provided a framework, some useful concepts and tools and a sense of legitimacy for taking this approach.

Research design

This section presents the overall approach and research design of this study, but the specific data collection and analysis for each of the objectives are presented in the respective chapters. The research design was an *exploratory embedded single case study* within a national system, in which I played the role of an embedded researcher using the DE approach with a group of stakeholders at the central level in Mozambique. Yin (2009) describes one aspect of an

embedded case study design that illustrates the relevance of this design for the study in

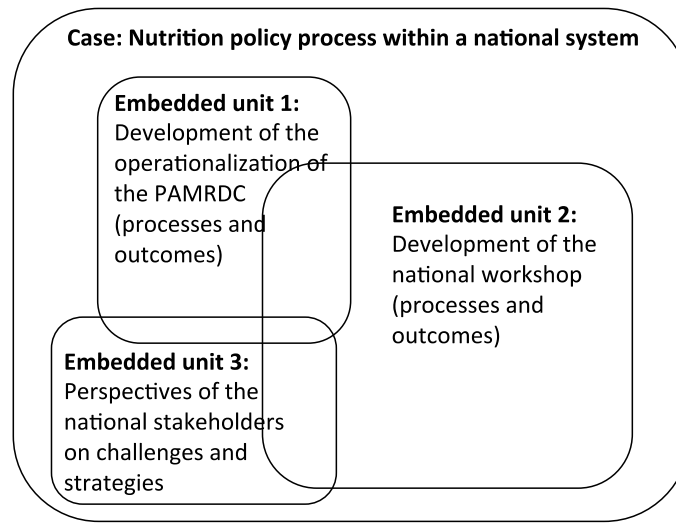
Mozambique:

“The embedded case studies rely on more holistic data collection strategies for studying the main case but then call upon surveys or other more quantitative techniques to collect data about the embedded unit(s) of analysis. In this situation, other research methods are embedded within your case study.” [73] (p.63).

More specifically, the case study of Mozambique was a unique opportunity to explore the use of a combination of the four basic types of designs for case studies as discussed in the literature [73, 74], as illustrated in **figure 3**. This might be better represented under the label of a *single-case design with multi-embedded units of analysis*. The focus of this dissertation is not to extensively discuss this type of design. However, such design brought an important asset that is worth mentioning: many actors included in the study were involved in more than one unit of analysis, allowing an exploration of their perspectives on multiple foci of this study, which represent the various units of analysis. In addition, such in-depth exploration of their views on three units of analysis that were highly related provided the opportunity for cross-checking, corroboration and triangulation. This was a unique case study and opportunity to explore, but it is not discussed in this dissertation, considering the already broad scope. Suffice it to say that this design was very appropriate for this study, despite not being recognized in the conventional literature, because the object under study included several embedded units: the operationalization process within a national system in which embedded efforts were also developed. In addition, this study used a form of mixed methods [75] to collect a large variety of data. Yin (2009) describes the situations when the use of a case study is particularly advantageous:

“A “how” or “why” question is being asked about a contemporary set of events, over which the investigator has little or no control”[73] (p.13)

Figure 3: Single-case design with multi-embedded units of analysis



As presented below, the various research objectives and sub-questions involve numerous “how” or “why” questions. As expressed by several stakeholders working in this context, “no other action plan in nutrition had ever attracted that amount of effort” for the translation of the plan into concrete actions in Mozambique, which emphasizes that this case was worth studying and a unique opportunity to learn from. In addition, this study took a *system-wide perspective* by examining a broad system, and collecting data from people involved in the smaller innovations and working at different levels, which explains the multi-perspective. **Table 3** presents an overall summary of the research methodology, and each of the respective chapters present a more detailed methodology with the data collection and analysis involved.

Table 3: Methodology

Research objectives and sub-questions	Data collection
<p>Objective 1: To assess to the extent to which a national workshop, planned through intentionally strategic processes, produces meaningful outcomes in a national system. Both processes and outcomes of this effort are examined (chapter 3).</p> <ol style="list-style-type: none"> 1) How can workshops be designed and implemented to maximize their potential benefits and what might those benefits be? The overall workshop development process is described and the analysis is put into alignment with the ideas of strategic thinking, system thinking and strategic capacity. 2) How do the participant workshop expectations and evaluations map onto this expanded set of potential benefits? How do the reported workshop outcomes map onto this expanded set? And how well would these be captured through conventional evaluation methods? 3) How can we provide plausibility-level evidence of effects of the workshop by using a complexity lens to examine processes, outcomes and attribution? What additional outcomes might be suggested and missed when using a conventional evaluation lens? 	<ul style="list-style-type: none"> - <u>Pre-workshop</u>: notes from informal interviews and meetings; semi-structured interviews (54 actors); brief stakeholder analysis; written documents; and participation. - <u>In-workshop</u>: presentations (general and case-studies); recordings from small group discussions and plenary discussions; end-of-workshop survey with open-ended questions (87 participants); observations and participation. - <u>Post-workshop</u>: Two online surveys (One and seven months with 36 participants); informal discussion; opportunistic feedback; and follow-up documents sent by participants (unsolicited).
<p>Objective 2: To describe and reflect on efforts to operationalize the PAMRDC and assess how those efforts advanced different decision functions of the nutrition policy process (chapter 4).</p> <ul style="list-style-type: none"> - How have the following functions of the policy process related to the PAMRDC been influenced and advanced through the contribution of various factors? <ol style="list-style-type: none"> 1) Planning 2) Agenda formation 3) Operationalization 	<ul style="list-style-type: none"> - Direct engagement (eight months within the MOH, 15 months in-country) with the nutrition and food security community; - Semi-structured interviews with 21 actors working at the central level (same as objective 1); - One online survey with 26 practitioners working at different levels (national, provincial, community) [subset of workshop participants]; - Personal notes from participating in numerous meetings; - Electronic communications with actors working at different levels in the national system; - Multiple written documents (reports, strategies, etc).
<p>Objective 3: To investigate the perspectives of key national stakeholders on the main issues regarding the operationalization and the coordination of the PAMRDC, and their related challenges and strategies to address them (chapter 5).</p>	<p>Q methodology (Q- sorting and semi-structured interviews) with 21 actors working at the central level in different institutions (government, donors, UN agencies, NGOs).</p>

Components of research and action

This DE research project investigated different aspects of the operationalization and coordination of the PAMRDC in Mozambique. The DE approach was used as a *method of inquiry* through the use of several methods and collection of multiple data to investigate the various processes and outcomes involved and provided deep insights on the emergent research objectives and sub-questions. DE was also used as a *means for action* through documentation and exploration of an innovation in real-time, and collection of data to orient our actions during the development of several efforts with a group of key stakeholders at the national level. The evaluation specialist Dr. Michael Q. Patton developed the DE approach over several decades of his comprehensive evaluation work that culminated with his book “*Developmental Evaluation – Applying Complexity Concepts to Enhance Innovation and Use*” in 2011. In his book, Patton expands the frontiers⁷ of practice and research possibilities by providing a frame with principles that are applicable to a great diversity of innovation developments; valuable insights to merge research and practice are provided. Before diving into DE, I highlight how this research is also in line with action-research. Patton’s book includes a very illustrative quote from Bob Dick that I dare use here because it reflects so closely an important part of the approach used with key national stakeholders in Mozambique:

“Action research can be described as a family of research methodologies which pursue action (or change) and research (or understanding) at the same time. In most of its forms it does by

- using a cyclical or spiral process which alternates between action and critical reflection and
- in the later cycles, continuously refining methods, data and interpretation in the light of the understanding developed in the earlier cycles.

⁷ A parallel is done with the article “Expanding the frontiers of population research: new questions, new methods, and new approaches” (Pelletier, 2013) in which mode 2 research is introduced in the field of nutrition and DE falls in that mode.

It is thus an emergent process, which takes shape as understanding increases; it is an iterative process, which converges towards a better understanding of what happens. In most of its forms it is also participative (among other reasons, change is usually easier to achieve when those affected by the change are involved) and qualitative” [72](p.280).

Patton also highlighted (from John Elliott, 2005, p.8): “action is often oriented toward solving specific problems” and “good action research is developmental” [72] (p.280). I believe this illustrates well this case study in Mozambique. The project strived to find solutions to problems or challenges encountered during the development of the operationalization process of the PAMRDC. The focus was on the development of various strategies and innovations to advance them; the ongoing reflection on what we were doing in order to orient our next actions are what made this research developmental, under the DE approach. DE sustains the development of an innovation,⁸ using a “real-time feedback”⁹ to constantly reassess what is being developed and guide decision-making” [72]. The numerous complexity dimensions involved regarding the operationalization process also made it a great fit for using DE in this context.

The action component of this project was closely linked to the three main objectives¹⁰ described in the terms of reference developed for my work at the MOH:

- 1) To support the coordination for the implementation of the PAMRDC;

⁸ Innovation: “alteration of what is established by the introduction of new elements or forms (including new ideas, practices, or resource flows); in particular the alteration of social relationships to allow for transformation of intransigent and broadly based social problems” (Patton, 2011, p.36).

⁹ ““Real time” refers generally to rapid feedback and response, linking data and action as close together in time as possible” (Patton, 2011, p.12). In a discussion with M.Q. Patton, I asked him what “rapid feedback” meant when I exposed the case study in Mozambique because I felt that sometimes things took time to move, which also impacted the time necessary to gain new awareness about the influence of some of our actions. Considering this is such a broad project, even if the feedback did not come quite so rapidly because of many constraints and realities, it was still valuable to the development of the innovations. My recall of the conversation is that he specified that in a large system project, “rapid feedback” might be relative, and feedback could take different forms for various people, and be given at different times. This answer was useful to put in perspective the different feedbacks used.

¹⁰ The TOR for this work at the MOH were developed by the head of the department of nutrition, the nutrition advisor of DANIDA and myself. Considering the complexity of the coordination and operationalization of the PAMRDC, and the innovation involved for the development of this new experience of ongoing learning while trying to advance the implementation of an action plan, the approach of “developmental evaluation” held promises in this context and was included in the TOR.

- 2) To support the identification of the best practices approach(es) of community nutrition for scaling up;
- 3) To support the development of protocols and documents needed for the implementation of selected interventions in the PAMRDC.

In this DE research project, it is important to mention that considering the scope and scales involved during the development of the operationalization process, this broad innovative project included several embedded smaller innovative projects in which DE was also carried out.

Studying complex adaptive systems

The study of complex adaptive systems, such as this project in Mozambique, required important considerations. Various literatures arguing that the system they seek to study is complex conclude along these lines:

The research approach must be aligned with the nature and properties of complex adaptive systems and there is a constant need for adaptation considering the unpredictability and uncertainty of those systems.

Therefore, several properties or characteristics of complex systems needed to be considered to select the approach and develop the methodology. Carrying out such research is referred to as mode 2 research and this study falls exactly in that mode. In his book, Patton presents an “interdependent set of complexity-sensitizing concepts that undergird developmental evaluation” [72](p.150). Those are: nonlinearity, emergence, adaptation, coevolution, dynamic interactions and uncertainty. He refers to such characteristics as sensitizing concepts: “a sensitizing concept raises consciousness about something and alerts us to watch out for it within a specific context.” (p.148). All those sensitizing concepts were relevant and considered in the case study of Mozambique, and allowed for an increased awareness about different influences on a system, which will become clearer in the following chapters.

To provide a glimpse of the previously mentioned characteristics or sensitizing concept mentioned above, I find it useful to provide a description of the way my research project evolved,

starting with the proposal that was presented to and accepted by my doctoral committee; this provides one example among many of *emergence* in this research project.

Emergence manifested in various ways in this action-research project and one way is in relation to the development of the project itself. Patton refers to emergence as the following: “patterns emerge from self-organization among interacting agents” [72](p.150). In the case of my doctoral proposal, I changed the focus through writing three different research proposals on: 1) the REACH facilitated process in Mozambique; 2) infant and young child feeding practices within the national program of community volunteers; and 3) a national workshop to improve the implementation of the community nutrition interventions. Fortunately, my fourth proposal, and the project presented in this dissertation, was broader and partially encompassed the three previous foci, thus allowing to benefit from the previous work done while developing the three proposals. In fact, I stayed alert to opportunities that presented in this context, illustrating the importance of being open to emerging elements. But even once I had identified broadly the object of study, coordination of the PAMRDC, the research questions were emergent: they emerged as a result of complete immersion into the context. But they even continued to emerge afterwards. For a long time, I thought I was studying the development of coordination related to the PAMRDC, but it is only after I returned that all the pieces of a gigantic puzzle were coming together and I truly realized that this whole project was about the operationalization process and that coordination was only one component of it. This is not surprising, as the operationalization process appears to be a major gap in many relevant literatures. Data collection was also emergent as we took advantage of the opportunities and points of interests (e.g. being in contact with workshop participants, I developed online surveys to gather additional feedback from the system). This example illustrates how emergence can manifest regarding different aspects and

that being receptive and alert can lead to surprising and interesting outcomes. This example also illustrates one challenge of working in mode 2: being able to work in a context with high uncertainty, especially when investigating an undefined, unclear, or unrecognized phenomenon that we do not have control over. This was a major challenge I faced several times because I did not have points of reference to support what I was doing (besides by advisor's confidence, familiarity, experience and comfort with action research and trust in the way things evolved).

A final point is of importance: being aware and considering emergence does not make a study weaker because of not having everything planned at the onset. Quite the contrary. As an example, someone could have entered this context in Mozambique with a pre-determined and very fixed design, with research questions and instruments developed. Indeed, several research groups are doing this in other countries at the time of this writing. Without engagement, this same person would most likely have missed core findings that are meaningful, relevant and actionable. In the present study, multiple data were collected allowing for the examination of several research objectives and the use of triangulation, which proved highly valuable.

DE research project

The following explanation from Patton is illustrative of the DE approach and begins to reveal how it is carried out:

“DE focuses on developmental questions: What’s being developed? How is what’s being developed (what’s emerging) to be judged? Given what’s been developed so far (what has emerged), what’s next? The developmental evaluator inquires into *developments*, tracks *developments*, facilitates interpretation of *developments* and their significance, and engages with innovators, change agents, program staff, participants in the process, and funders around making judgments about what is being developed, what has been developed, and the next stages of development” [72] (p.19).

DE is “purpose-and-relationship driven not methods-driven,” with the underlying assumption that “methods are useless unless they are embedded in a co-evolutionary process of

ongoing reality testing, inquiry, learning, and action” [72] (p.288). When carrying out DE, “questioning is the ultimate method”[72] (p.288). An important feature of DE is also that “the evaluator not only has a seat at the table but a voice in meetings to inform strategy and future direction”[72] (p.33), which my work at the MOH made possible. There is an important distinction to make between “developments” and “improvements.” Improvements involve making changes to an intervention or a program in order to make it better. In contrast, DE:

“involves exploring the parameters of an innovation and, as it takes shape, changing the interventions needed (and *if needed*), adapting to changed circumstances, and altering tactics based on emergent conditions” [72] (p.39).

The case study in Mozambique included both improvements and developments, but this dissertation focuses primarily on the developments. In addition, with complex systems, there is a need for adaptation, and DE allowed for this, as adaptation is at the center of the approach. Thus, in Mozambique, an adaptation in the complex system under study was done through the use of an informal strategic group of actors working at the central level and that reflected in an ongoing manner on what was being developed to orient the next actions.

Specific situation and purpose for using DE in Mozambique

In his book, Patton describes five situations in which DE is used with a specific purpose. Several elements about the situations and purposes are relevant for this case study in Mozambique; however, the latter case study also presented distinguishing features other than the ones proposed by Patton. This section examines the elements from three of the five “situations and purposes” of DE that seem the most relevant and applicable to Mozambique. The first situation and purpose appropriate for DE with relevance is:

“Ongoing development in adapting a program, strategy, policy, or innovation to new conditions in complex dynamic” [72](p. 194). [Emphasis in italic by Patton and in bold by myself to highlight the terms relevant for the case of Mozambique].

This situation involves an initial strategy requiring adaptation. In the case of Mozambique, the PAMRDC could be considered a strategy, but it is not a process of adapting something existing (although adaptation occurs and is required) but rather a process of developing something new that became necessary when an action plan was designed. It is distinctive of this use, but the term “ongoing development” applies to the use of DE in Mozambique. The second situation and purpose with applicable elements is:

*“Performative development of a **potentially broad-impact, scalable innovation** to the point where it is ready for traditional formative and summative evaluation” [72](p.194).*

The term “scalable innovation” is important for the use in Mozambique, however, it did not involve a small innovation to scale up. Rather, it was an innovation that needed to consider scales and levels within a system. It required including actions at multiple levels and across levels. An additional situation and purpose with applicable elements is:

*“**Major systems change and cross-scale developmental evaluation**, providing feedback about how an innovation may need to be changed and adapted as it is taken to scale to increase impact and contribute to major systems change” [72](p.194).*

The terms “major systems change” and “cross-scale developmental evaluation” appears applicable and illustrative to the case of Mozambique. This use could also involve the “horizontal scaling across systems or vertical scaling to broader systems” [72] (p.194), which is also relevant. Despite the importance of scale, the innovation(s) did not aim to scale but rather to consider scaling up, to involve the various levels, and work across scales. This ambiguity about which of Patton’s five “types” of DE best for the situation in Mozambique most likely contributed to my doubt about what was really taking place. Was our context an appropriate situation and fit for the DE approach and principles? Were we really using DE approach? This questioning illustrates one more manifestation of working in mode 2. With this type of research, there is a lot of ambiguity, so we have to be open to what emerges. I answer those two questions affirmatively, thus, I

propose a sixth situation and purpose for DE that reflects our use of DE in Mozambique. We did use DE in a different way that appears to be a relevant situation and purpose for DE:

Multi-level embedded systemic innovation, in which smaller innovations are developed to lead to a larger systemic innovation and in which the smaller units act as catalysts to achieve the goal of the broader innovation.

As introduced, this sixth situation and use is an “ongoing innovation” within a system, characterized by a broad innovation with smaller innovations embedded within. The smaller innovations are subunits that also serve the broader one. The existence of the smaller ones has a certain dependence on the existence of the broader one and vice-versa. There is an important distinction to make regarding data and the various innovations. Some data were collected for the development of a strategy¹¹ or smaller actions used as feedback to guide actions (e.g. informal or semi-structured interviews for the development of the national workshop). For example, to decide on the target participants for the national workshop, we carried out a stakeholder analysis with 10 actors holding different functions to identify which ones to select, considering the potential benefits for those actors, the interventions, the system, as well as benefits to the workshop itself. Other types of data were collected and used as feedback to guide action for the broader innovation (e.g. outcomes of the national workshop to shed light on the broader operationalization process). This dissertation on the case study of Mozambique is an example of this specific situation and purpose.

Finally, the term “developmental evaluator” is used by Patton to describe the person who uses DE approach to follow the development of an innovation while working with the innovators. Personally, I have never used that term, partly because of my doubt as expressed before, but also because DE remained unknown by a large proportion of practitioners and the term “evaluator”

¹¹ In this dissertation, the term “strategy” is used to refer to a composite of small actions that aim to achieve specific smaller objectives; taken as a whole, those smaller actions, which can be referred to as “tactics,” intend to reach a broader goal. The tactics are the building blocks of a broader strategy.

does not always have a positive connotation. I also did not think it fully represented my role. I believe that “facilitator” is more appropriate considering the nature of the work that I have carried out. Here, facilitator refers “to facilitate,” in the sense of making things easier or assisting the progress of something; this may be slightly different from the meaning we sometimes attribute to it, such as when there is one person facilitating, or simply leading a workshop. This role also involved: helping to put the pieces together; helping reflect on some of the lessons; raising issues that other actors had shared and needed to be addressed; giving my opinions on certain options; being there when no one from the informal group could go to an important meeting and ensure covering topics or reporting back to the group in order to follow-up on some actions. The question that I constantly asked myself was, “how could I be helpful to this process?” Therefore, this involved playing many roles, which brings some considerations when playing simultaneously several roles in a context, and even ethical implications discussed later.

Playing those different roles also raised the issue of neutrality. How can we remain neutral? Or was I neutral? Or should I always strive for neutrality? For example, on some of the technical issues, there were disagreements; being trained in nutrition, I had an opinion on certain alternatives. This may be seen as not being completely neutral, which I personally do not believe is possible nor desirable. I did not favor options, but rather I was committed to problem solving and facilitating the development of processes with the main actors in this context. I believe the term that would best describe the role that I played in Mozambique is a role of a “developmental facilitator.” This makes a parallel with the “activist-mediator” term proposed by Susskind and also used by Forester. Susskind acted as an “activist-mediator” in numerous settings in context of disputes and conflicts [76]. Forester studied decision-making processes through some of those “activist mediators” who work in context of disputes and deep divisions [77]. As planning

scholars highly recognized in the negotiation world, both of them referred to context of disputes and conflicts. The context in Mozambique was different, and did not involve a mediation process. The processes that are referred to in this dissertation are at a higher hierarchical level, more referring to actions and elements than the dialogue, deliberation and decision-making processes (although negotiation also involves those multiple strategies to favor optimal processes). In addition, there was still the need for effective and cooperative processes, which I strived to promote and develop while carrying out the functions of my work.

Research approvals

The Institutional Review Board from Cornell University approved this study. Considering the nature of this work, an initial IRB proposal was approved, and an addendum was used to adapt the proposed design to the evolving developmental research context. For the Q study, all participants signed an informed consent. For the national workshop, participants were informed that a research project was attached to this workshop, and an exemption was given by the IRB. For the surveys, the study information was provided before the survey questions; it was anonymous and voluntary, and respondents accepted to participate prior to filling in the online surveys. Regarding the operationalization process, good relationships maintained with actors involved in this context were important to crosscheck some of the information used. This helped in addressing some ethical challenges in this type of study because of the impossibility to ensure anonymity in certain circumstances due to official functions of certain actors.

CHAPTER 3: EXAMINING THE PROCESSES AND OUTCOMES OF A NATIONAL WORKSHOP THROUGH A COMPLEXITY LENS

INTRODUCTION

Challenges at the national level

In recent years, advancements to improve child nutrition and survival have been achieved in several developing countries; however, many countries continue to experience high rates of child undernutrition and mortality. The 2008 Maternal and Child Undernutrition *Lancet* Series produced a momentum for increasing actions to implement and scale up a set of efficacious interventions to address maternal and child undernutrition [11]. Major challenges identified at the national level hindering the fight of undernutrition globally included: placing and maintaining nutrition on the list of national priorities; acting at scale to increase coverage; weak implementation of effective interventions; weak or non-existent coordination among various actors at national level; and limited strategic and operational capacity [12]. Suboptimal interactions among actors have also been found to be a frequent feature of the nutrition policy process [40, 78], which may compromise many efforts at various levels. The 2013 follow-up Maternal and Child Nutrition *Lancet* Series dedicated one full article to discussing the enabling environments and factors that influence the political and policy processes. The authors reiterated the importance of addressing many of the previously mentioned challenges, if we were to make progress in reducing undernutrition [14]. These challenges point to the importance of improving the social process, one of the most overlooked dimensions of the policy process [33].

Approaches to deal with complex systems

A relevant area to explore when dealing with broad complex systems is the research on health system strengthening. Researchers of health systems consider that a comprehensive

systems perspective that involves “...a consideration of all individuals and institutions that impact health and their dynamic interactions over time – should be central in future health practice, education, research and policy.” These authors criticized the prevailing reductionist approach in the health system of working in silos by disciplines on diseases and they stressed the importance of taking a systems perspective when studying or acting upon complex systems [79-81]. This has led to an increased interest in complexity concepts and systems thinking. Those same authors highlighted that key ‘system thinking’ tools and strategies have the potential for transformational change in health systems.” In their analysis of systems thinking tools and strategies, Swanson et al. (2012) authors identified three overarching themes:

- 1) Collaboration between actors across disciplines, sectors and organizations, which is required in the whole system, and that actors need to go beyond their area of expertise;
- 2) Ongoing, iterative learning, based on the recognition of the ever changing context, thus, requiring to learn from experience;
- 3) Transformational leadership; advocate for change [79].

Despite the welcome promotion of complexity-based principles, the authors propose strategies and models that are somewhat contradictory with the previously mentioned themes, in ‘system thinking tools:’

“Utilize systems thinking tools such as knowledge synthesis, concept mapping, social network analysis, programme budgeting and marginal analysis, and system dynamics modeling (Willis et al, 2011) to effectively manage complexity and changing dynamics (National Cancer Institute 2007).

This illustrates two different views or approaches that are present to address complexity. Indeed, multiple approaches, methods, tools, or techniques have been proposed, and those can be grouped into two major categories:

- 1) *Mathematical and computer-based approaches* that use various mapping or modeling to try to illustrate or explore relationships between different interacting elements and/or anticipate effects (e.g. computer modeling, network analysis, concept mapping, sensitivity analysis, etc...);

- 2) *Engaged approaches* that use dialogue and deliberation with different types of actors to reach agreement (problem-solving, conflict resolution, planning, ...) through engaging actors in decision-making processes (e.g. consensus-building approaches, collaborative planning, etc...).

On the one hand, a large part of mathematical and computer-based approaches aim to predict, anticipate or explain different aspects of complexity, as illustrated in a document from OECD entitled: *Application of Complexity Science for Public Policy – New Tools for Finding Unanticipated Consequences and Unrealized Opportunities* [82]. The overarching question addressed at the workshop including scientists, policymakers and program managers on which the report was based was:

“How can insights and methods of complexity science be applied to assist policymakers as they tackle difficult problems in policy areas such as health, environmental protection, economics, energy security, or public safety?” [82] (p.3)

This document represents one widespread view in public policy when we make explicit an assumption. Terms used in the report such as to “control,” “anticipate,” “predict” and “manage,” are used throughout the report. Thus, an assumption is that complex models can predict complex phenomena. We can read the following:

“An advanced modeling approach, which incorporates aspects of human cognition, is being used to predict, in real time, “surprises” (e.g. traffic jams) in traffic and automatically alert drivers via wireless communication networks.” [82] (p.12)

Although this view involved predictions and models, there was still a recognition that their efforts might be in vain in certain areas:

“...researchers acknowledge that, for some classes of phenomena – notably, complex ones – the only alternative to probabilistic knowledge is none at all. It will be challenging, though necessary, for policymakers and scientists alike to move beyond strict determinism if they wish to effectively engage in decision making under conditions of uncertainty and complexity.” [82] (p.13)

But then, we read the following:

“Predictive models may not actually be as useful to policy makers as the existence of decision-support tools. Accordingly, researchers must take special care to formulate the

results of their work in terms that policymakers can understand and utilize. Simulations that show what will happen in various scenarios and options are especially useful, particularly if they capture the essential complexity involved.” [82] (p.14)

Even when it was recognized that predictive models have limitations and have low predictive capacity, the proposal for simulations that would show various scenarios again raised a contradiction; a lot of underlying assumptions with this kind of view defeat the premise that complex systems are unpredictable and uncontrollable. Such reasoning also does not recognize the various forms of rationality underlying public policy (e.g. technical, economic, political...) assuming that one scenario would lead to a certain decision [83].

The other view of complex systems proposes to deal with human social interactions by engaging various actors in decision-making processes. The literatures on negotiation, conflict management, management and planning abound with books providing various tools to help with decision-making processes [76, 84-86]. Approaches involving dialogue and deliberations rely on various decision-making strategies that negotiators and mediators are skillful in developing and managing. Those involve sustained efforts to deal with disagreements, develop relationships, and clarify interests in order to reach agreement [85]. In planning, Forester has explored the art through practitioner profiles, which highly value knowledge gained from professional practice, to craft thoughtful decision-making processes and shed light on critical discussion processes, such as the following:

- *Fostering dialogue* can promote understanding and mutual recognition between parties, fostering trust and respect, beginning the work of relationship building – even as skeptics may always voice suspicions of this as “just talk.”
- *Moderating debate* can sharpen arguments, identify crucial or missing information, and clarify critical differences between parties – even as such sharp arguments always risks escalating antagonisms and undermining relationships between the parties.

- *Mediating negotiation*, in contrast, crafts agreements to act-signed commitment to give in order to get, to act together to satisfy the represented stakeholders' interests – even as further, deeper structural issues require ongoing organizing. [77] (p.152-153)

Disagreements and conflicts between actors over policy decisions were identified as some of the most frequent features of the policy process [44], requiring attention to discussion processes. Those dialogue and deliberation approaches are the basis for social processes. However, some other processes are also important at a higher hierarchical level. Sometimes relevant actors are not even involved and engaged in processes related to their work, highlighting a need to first engage them in order to foster actions and interactions among various actors in a national system.

Swanson et al. (2012) laid out the groundwork through highlighting main themes that hold promises to transform health practice, education, research, and policy, however, approaches meeting those characteristics are limited. The system thinking strategies and tools about complex models to predict the “unpredictable” will be of little use to practitioners dealing with the complexity brought on by human interactions. It is thus critical for policy-makers and various practitioners to use a different set of system thinking tools and strategies. Considering the magnitude, interconnectedness, and various scales involved regarding the challenges at the national level in the field of nutrition as presented before, a relevant question is: what kind of tools or instruments are available for such an endeavor? In the present chapter, we further explore that a national workshop could include strategic actions targeting the system as a whole and help different parts to be aligned, work synergistically, and produce meaningful outcomes. In addition, this chapter presents a framework for strategic system thinking that can support practitioners and help raise awareness on specific questions, dimensions, and elements with the potential to develop effective strategies targeting complex adaptive systems.

Strategic actors in Mozambique

Over time, major achievements have been reached in Mozambique thanks to several actors at the central level who carried out many actions allowing for progress regarding the PAMRDC, such as the following: signature of a declaration of commitment by representatives of all the ministries, UN agencies, development partners, civil society, and private sector (to agree for the development of the PAMRDC); increased leadership from the Prime Minister; and creation of the multisectoral working group. Considering these successes, actors in this context appear to be skillful in finding ways to reach their goals through various strategic actions, embodying the concept of ‘strategic capacity’ [87]; I was able to appreciate it when I began fulfilling the role on an actor, part of those actions. Therefore, an assumption in this study is that strategic capacity was present in this context and close examination of the experience can help uncover aspects to consider for strategy development.

In addition, several other concepts appear closely related, but they have different assumptions and involve different processes. The concept of ‘strategic thinking’ refers to “a creative, divergent thought process,” which is also aligned with the use of numerous strategic elements, as it was used in this case study for the development of a broad initiative. Strategic elements were included all along the development process of this workshop to address major challenges in nutrition, foster different changes within the national system, and improve system commitment. In contrast, ‘strategic planning,’ refers to “programmatic, analytical thought process” [88], which does not reflect closely the process involved in this case study. Another assumption to make explicit in this research is that the critical importance of decision-making is recognized, but this chapter is taking a different look at a higher hierarchical level in terms of

processes, looking at a tactical level, that includes the strategic elements that are the building blocks of broader processes (strategies).

Change in mindset

Additionally, the implementation of a workshop can be seen as an intervention in a complex system that leads to uncertain and unpredictable outcomes. Given the properties of complex systems and the potential outcomes produced, examining the workshop processes and outcomes through a complexity lens can help to better anticipate, document, value and account for a large number and variety of potential ripple effects. Such a task presents a challenge of also capturing and assessing workshop outcomes and attributing them to the workshop because many of the produced outcomes are intangible. This endeavor, in turn, requires a change in mindset to the prevailing research paradigm that leads us to value what we can directly assess and measure, especially in the short-term. Therefore, an alternative evaluative framework is needed that goes beyond conventional mode 1 thinking. This is especially important because applying conventional ways of evaluation may lead to see failure when there was success, and vice-versa [59]. Conventional evaluation may also neglect to recognize the creation of conditions for future success.

If we apply complexity thinking to the broader endeavor of implementing a multisectoral action plan for the reduction of stunting, we begin by imagining the potential stream of changes that can arise when a small number of individuals within the national policy system engage meaningfully with a much larger number of individuals and groups, who then can become catalysts in their own environment. This chapter examines the possibility of creating and documenting such dynamics through a case study in which a strategic approach was used to orient and activate practitioners, policymakers, change agents and researchers. The present

chapter ends with a framework for strategic system thinking that crosses the boundaries of several disciplines and can help actors to design and carry out strategies for transformational change in a complex system; it was developed based on the overall approach those actors used to develop various strategies. Specifically, this research component involves the following three sets of research questions:

- 1) How can workshops be designed and implemented to maximize their potential benefits and what might those benefits be? The overall workshop development process is described and the analysis is put into alignment with the ideas of strategic thinking, system thinking and strategic capacity.
- 2) How do the participants' workshop expectations and evaluations map onto this expanded set of potential benefits? How do the reported workshop outcomes map onto this expanded set? And how well would these be captured through conventional evaluation methods?
- 3) How can we provide plausibility-level evidence of effects of the workshop by using a complexity lens to examine processes, outcomes and attribution? What additional outcomes might be suggested and missed when using a conventional evaluation lens?

DATA SOURCES AND ANALYSIS

Various types of data were collected regarding this workshop and were used for four different purposes: 1) to document the workshop processes (development, planning, and implementation); 2) to develop the different events and activities (e.g. concept-note); 3) to feed back information to different audiences on various aspects (e.g. document on best practices, innovations, challenges, and barriers); and 4) to evaluate workshop outcomes. **Figure 4** presents a chart of the overall workshop processes and outputs related to each of the 3 phases: 1) pre-workshop; 2) workshop; and 3) post-workshop. The first column details what the data collection was regarding each phase. **Table 4** presents the diverse data collection methods concerning the three workshop phases.

Figure 4: Chart of the workshop processes and outputs

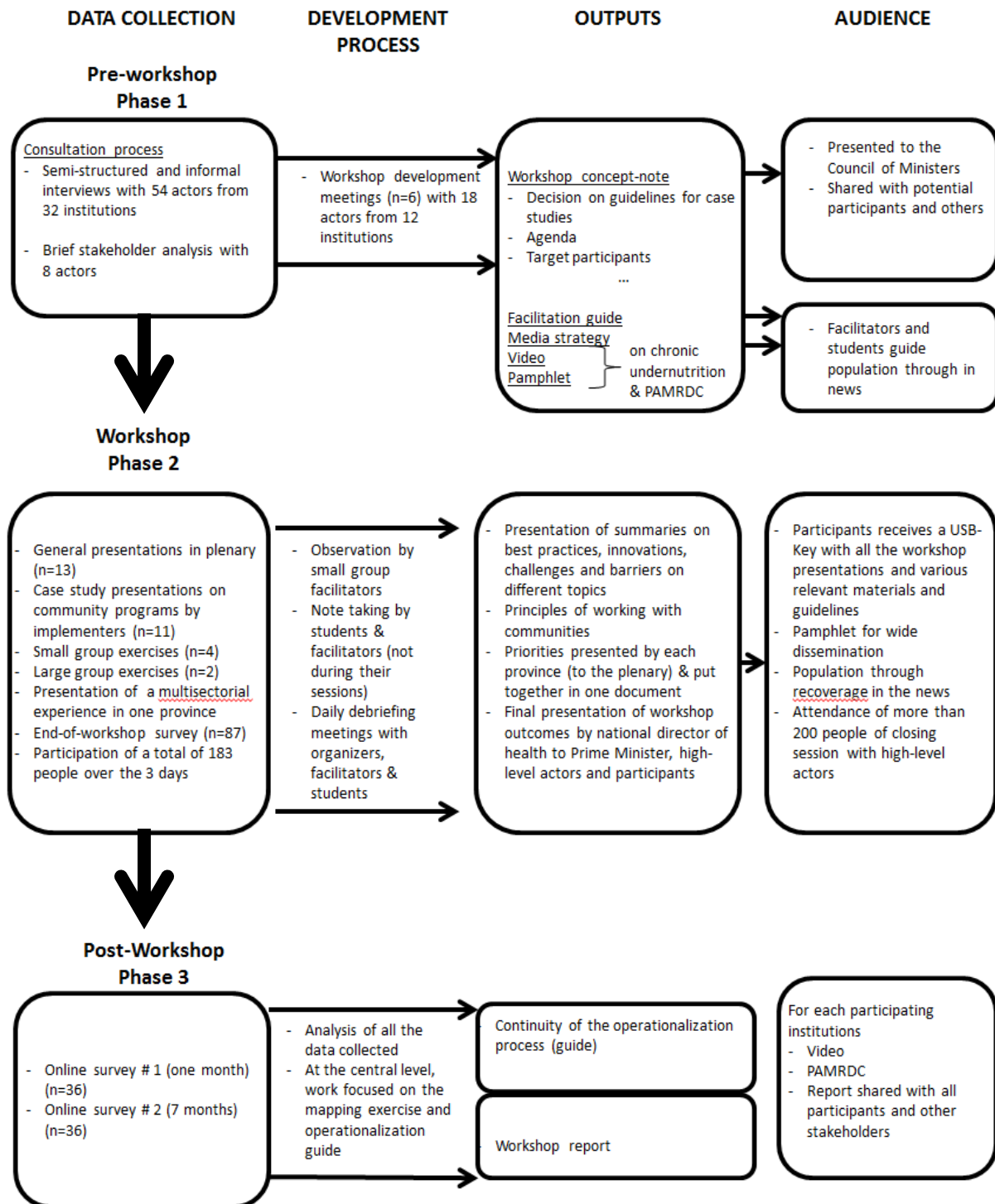


Table 4: Data collection methods to document the workshop processes and assess workshop outcomes

Data collection	Description
PRE-WORKSHOP (PHASE 1)	
Workshop development meetings	Six meetings occurred, in which 18 people from 12 institutions participated. Data regarding those development meetings include: agendas and minutes of each meeting, and internet communication with participants.
Semi-structured interviews	A total of 54 people from 32 different organizations were consulted for the workshop development and detailed notes were taken during those interviews. As those interviews occurred at different periods of the development process, the questions asked evolved in an emergent manner along the progression of the workshop development. A snowball sampling was used to select the institutions and people to include in this consultation process. People were very responsive and enthusiastic; their ideas and perspectives contributed greatly to shaping different aspects of the workshop. All proposed ideas were noted by the workshop development facilitator and discussed during the workshop development meetings.
Interviews for a stakeholder analysis	Interviews with 8 practitioners were carried out for a brief stakeholder analysis to help select the workshop participants within the government structure.
WORKSHOP (PHASE 2)	
Participant observations	Small group facilitators, nutrition students and myself carried out participant observations on group dynamics and main points rose during the different activities.
Small group discussions	After each day, the nutrition students prepared a written summary of the group discussions. A total of 4 small group sessions were held (with a total of 35 groups), and 16 group discussions were tape-recorded.
Anonymous end-of-workshop survey	The last day, 87 participants completed a paper copy of an anonymous end-of-workshop survey that included statements to assess participants' feelings toward: overall workshop, choices of participants, topics, potential outcomes, knowledge gained and time.
POST-WORKSHOP (PHASE 3)	
Online surveys	Online surveys were sent to participants (1 month and 7 months post-workshop) in order to assess potential workshop outcomes. Thirty-six participants completed the first survey that included questions on: strengths and weaknesses, areas for improvement, main achievements and influence of the workshop. Thirty-six participants completed the second survey that included questions on: workshop outcomes and initiatives related to the coordination and implementation of the PAMRDC. Those 2 online surveys were responded by a total of 58-64 different participants.
ONGOING	
Opportunistic feedback and follow-up documents sent by participants	The role of facilitator of the development and planning of this workshop allowed me to be in regular communication with many workshop participants prior to the workshop, and take advantage of opportunistic and unsolicited feedback received throughout the workshop processes and after.

Phase 1 included 6 workshop development meetings, semi-structured interviews with 54 people from 32 different organizations, and interviews with 8 practitioners. The data about the meetings were mainly used to document the workshop development process. The semi-structured interviews contributed to the development of the concept-note, identification of session topics, and guidelines for case studies. The interviews for the brief stakeholder analysis were used to identify participants to invite from the government and develop the selection criteria to identify participants to invite from the implementing institutions. *Phase 2* involved participant observations, small group discussions and an anonymous end-of-workshop survey. Data from this phase was mainly used to develop the workshop outputs presented at the workshop (next steps and priorities established by provinces) and assess the workshop. During the workshop, participants' observations were done and discussed at the daily debriefings; notes from those discussions were included in the data analysis. Several small group discussions were held and about half were recorded. Those tape-recorded were listened to after the workshop; detailed notes were taken and several parts were transcribed verbatim. An anonymous end-of-workshop survey was done at the end of the workshop and was completed by 87 participants. About 110-120 paper copies of the survey had been printed considering that nutrition students, facilitators and organizers would not fill out the survey. Due to logistical reasons, because people were sitting mixed in the same room, the nutrition students passing out the surveys were potentially unaware as to who they were giving the surveys to. This, therefore, may explain in part why only 87 surveys were filled in and returned. *Phase 3* included 2 online surveys to assess the workshop and potential workshop outcomes. Opportunistic feedback and follow-up documents sent by participants were also included.

The written data were read multiple times, the recordings were listened to at least once and several parts were transcribed verbatim. Content analysis was carried out to identify emergent themes with most of the written data. Memos were largely used during all the workshop processes and the analytical phase post-workshop. The large variety of data sources collected regarding this workshop made triangulation possible. All data were analyzed and compiled into a comprehensive workshop report¹² shared with all participants several months after the workshop.

¹² Michaud-Létourneau I. *Reflecting on the Implementation of Community Interventions to Improve Nutrition in Mozambique. Report of a National Workshop held March 6-8, 2012*. MOH. Maputo, Mozambique, December 2012 (112 pages). [Report available upon request]

RESULTS - PART 1

The results are presented in three parts to discuss each of the three research questions mentioned previously.

How can workshops be designed and implemented through a complexity lens to maximize their potential benefits and what might those benefits be?

In recent years, several events have placed the fight against chronic undernutrition as a top priority on the nutrition agenda in Mozambique. In 2008, the Ministry of Health (MOH) held a national meeting on nutrition, and the following year it welcomed a mission of high-level UN representatives to discuss the same topic. These meetings led to the 2010 national high-level seminar on chronic undernutrition, which enabled multiple stakeholders to reach national consensus on the PAMRDC. Two years after the signature of the PAMRDC by the Prime Minister, Ministers and representatives of various institutions, the operationalization of the action plan and the work in the provinces was slow to move forward despite intensive efforts by several mid-level actors. Most of these efforts focused on clarifying the governance arrangements, developing operational plans and other activities at the national level (**table 5**) but progress was hindered by the need to consult many parties, bureaucratic delays and lack of a shared understanding of the meaning and requirements for multisectoral nutrition.

In light of this slow pace, the department of nutrition at the MOH took on the leadership and strategic decision to organize a national workshop as an alternative means to accelerate the operationalization and implementation of the action plan and to improve coordination among actors at various levels. Considering that a large majority of the interventions and activities of the PAMRDC were delivered through community involvement, community interventions to improve nutrition became the central focus. This national workshop was viewed as an opportunity to

stimulate work within the national system. A national workshop of this scale and involving people from three key sectors (health, nutrition, and agriculture) from Government and development partners was an ambitious undertaking that had never taken place in Mozambique. Efforts of many actors led to the design and implementation of the workshop entitled: “*Reflecting on the implementation of community interventions to improve nutrition in Mozambique*” which took place in the City of Maputo, Mozambique, from March 6th to 8th, 2012. This workshop was part of a broader initiative at the central level to advance the operationalization of the PAMRDC and in which the DE approach was used. **Table 5** presents the different efforts developed for the operationalization of the PAMRDC in Mozambique that I have been directly involved in at some time in the multiple processes required to carry out those efforts. It is important to note that only three of those had been planned at the onset of the PAMRDC, that is, those were included in the document of the plan itself; this point is discussed further in the course of this dissertation.

Table 5: Efforts developed for the operationalization of the PAMRDC in Mozambique

	Efforts	Objectives relevant for the operationalization process
1	Multisectoral working group at the national/central level *	To facilitate the planning and implementation of the PAMRDC at the technical level in Mozambique (including the operationalization, and M&E of the implementation).
2	Operational plan of the health sector (nutrition) *	To develop the operational plan for the health sector, beginning with nutrition. This first experience was thought to provide a first experience on how such planning would occur in all the different sectors.
3	National workshop on community interventions	1) To foster actions in the national system to improve community interventions for improving nutrition (through using various elements pre/in/post workshop); 2) To share latest developments regarding the PAMRDC; 3) To attract political attention (and increase commitment) through participation of high-level people; 4) To help ensuring coherence in the system and decide on next steps at the provincial level.
4	Group of donors (Nutrition Partners Forum)	To form a forum for the coordination of key donors that provides support to the implementation of the PAMRDC and nutrition (information-sharing; support government to mobilize resources; monitor technical and financial implementation).
5	Operationalization guide	To provide guidance to the central and provincial levels on the way the operationalization process of the PAMRDC will/should be carried out.
6	Policy brief for the Prime Minister on multisectoral coordination	To share insights from different types of coordination mechanisms used in other countries, present the situation in Mozambique and propose options.
7	Mapping of the interventions	To develop a data collection tool to know “who is doing what, where, and how?”
8	Q study on coordination and operationalization	1) To investigate the perspectives of national stakeholders on the main issues involved and challenges regarding the coordination and operationalization of the PAMRDC; 2) To gather opinions on the next steps to move forward and present the points of agreements and some divergence of opinions to the multisectoral working group (GT-PAMRDC).
9	Provincial group to develop the provincial plan *	To stimulate the formation of a provincial team in each province to develop effectively its provincial plan.
10	Diagnostic tool for the planning at the district/community level	To include optimal nutrition indicators and ways to assess nutrition at the community level in the diagnostic tools used by district/community planners.

*Planned in the PAMRDC

The overall goal of the workshop was to determine optimal approaches in community interventions in order to optimize program implementation and impact on maternal and child nutrition. This workshop also aimed to address multiple challenges within the national system and go beyond addressing the mere technical dimension of the problems. **Table 6** presents the strategic dimensions that were to be addressed through several objectives and activities. Those dimensions were identified in retrospective based on the numerous objectives of the various components and activities related to this national workshop.

Table 6: Strategic dimensions covered by the various complementary objectives

Dimensions	Description of objectives
1. Technical	Expose current situation in maternal and child health in Mozambique; advocate for agriculture and health sectors to get involved; collect data on programs and interventions countrywide; provide updates and materials.
2. Social	Build relationships between different actors across geographic areas, sectors, areas of expertise, and organization types; share viewpoints and experiences among participants; instigate a common reflection.
3. Political	Convince high-level individuals to participate in the workshop and video; have them convey key messages for workers in the national system in Mozambique; increase their awareness and commitment to the problems.
4. Motivational	Value the work done by many groups present; carry out an inclusive process that recognizes that all actors have a role to play; listen to what participants have to say; present the multisectoral experience of one province, thus, providing an example on how multisectoral planning can be carried out.
5. Decisional	At the technical level, formulate concrete actions to be taken in each province, and share common priorities with political and high-level actors; produce different types of knowledge to orient MOH and partners actions.
6. Systemic	Foster actions and coherence in the national system; contribute to improve coordination and increase system commitment; articulate principles for community work; identify challenges and areas for improvement; help to increase the alignment of NGOs' work with government priorities.
7. Reflective	Throughout the workshop development, use reflective and strategic thinking to develop actions and activities; advance different aspects of the operationalization process at central and provincial levels through learning from actions.
8. Opportunistic	During the workshop processes (consultation process, workshop, other activities), take advantage of opportunities that present in the context; meet the needs of various agendas to align actions; disseminate information that others can also take advantage to fulfill their objectives; be proactive when opportunities come.
9. Instrumental	Help to advance the overall operationalization process of the PAMRDC; ultimately, contribute to increasing the effectiveness of interventions with a potential to improve nutritional outcomes countrywide.

Table 6 is important because this chapter demonstrates that when smaller actions, tactics, processes, and strategies that form the building blocks of broader efforts are aggregated and address those different dimensions, they are likely to produce effective change processes as well as lead to meaningful outcomes. As will be demonstrated in this chapter, when those various dimensions are used together to design strategic processes, effective outcomes are likely to be produced. Using those dimensions to develop strategic processes is part of using *strategic capacity*. In this chapter, the workshop processes are briefly described in two distinguishing phases: workshop development and planning (pre-workshop – phase 1) and workshop implementation (workshop –phase 2).

Workshop development and planning

The workshop development and planning included workshop development meetings with a group of partners in nutrition, a consultation process with key partners in agriculture, health and nutrition, and the development of the workshop facilitation and of complementary activities. A workshop concept-note was developed during the planning process and is found in **Appendix A**. The involvement of partners at different times aimed to take advantage of various resources and opportunities, increase transparency, foster workshop ownership, and ensure that the workshop addressed the current needs to improve community nutrition interventions.

During the workshop development, special attention was given to improve aspects of the major challenges identified in nutrition literature that were highly relevant to Mozambique, through the inclusion of many strategic elements. It is important to note that those challenges occur in a large system, a national one; thus, completely addressing them remains incredibly difficult, if feasible at all. **Table 7** presents some illustrative strategic elements introduced into the workshop development, planning, and implementation to incrementally address critical

challenges in nutrition. Of consideration, the elements regarding the technical aspects and content are not included in this table to emphasize that many other dimensions are essential.

Workshop development meetings

A total of 18 people representing 12 institutions working in nutrition, agriculture and health participated in at least one of the six core meetings. Those meetings included different activities: brainstorming sessions, discussing feedback on documents and ideas, pulling resources and decision-making on several issues that led these actors to jointly develop the ideas contained in the workshop concept-note. Ideas collected during the consultation process described below led to the development of several innovations. In parallel to these meetings, an ongoing dialogue with multiple actors regarding different issues (e.g. donors) was also taking place. **Table 8** presents an illustrative application of a developmental evaluation framework [72] for the development of this workshop. On the left hand, in “what has to be developed?” we can see the strategies and tactics to achieve the broader overarching objectives of the workshop.

Consultation process

A comprehensive consultation process occurred over a 6-month period in which 54 stakeholders from 32 institutions at different stages of the planning process were consulted in order to understand their programs, practices and challenges, gather their ideas and engage them into the process. A snowball sampling [89] was used to select the institutions to include in this consultation process. Participants’ ideas and perspectives contributed greatly to shaping different aspects of the workshop. All proposed ideas were discussed during workshop development meetings and led to the development of workshop sessions and guidelines for case studies, among others.

Workshop facilitation

Early in the development process, we decided to have small group facilitators during the workshop to ensure the discussions were on topic, the participants understood the group activities, and capture participants' perspectives. This would also ease the flow between sessions considering the large number of expected participants. A facilitation guide was developed interactively with the presenters of the main workshop sessions, the organizers and the main workshop facilitators. This guide is available in Portuguese and English upon request. Considering the importance of new nutrition actors, graduating nutrition students were involved in the workshop. They played the role of note takers during the small group discussions, were observers and participated to the daily debriefings with professionals.

Complementary workshop activities

Complementary activities were developed along with the workshop. A video presented aimed to increase awareness on chronic undernutrition and understanding of the causes and potential solutions among political actors (by involving them in the video) and among practitioners from different sectors and at different levels (by providing them with copies of the video). A small group of partners in nutrition and one journalist helped us developed the script. The video featured four influential high-level personalities in Mozambique: the Prime Minister, the First Lady, the Minister of Health, and the UN Coordinator Resident in Mozambique. The efforts needed to reach these people were tremendous, but worthwhile. The video was presented at the beginning of the workshop and at the closing session before the Prime Minister's speech. A pamphlet was developed to provide basic information about chronic undernutrition in Mozambique, the PAMRDC and effective interventions that could break the cycle of chronic undernutrition if implemented within the first 1000 days following conception.

Table 7: Development of a national workshop: illustrative strategic elements to incrementally address critical challenges

Strategic elements	Rationale/Description	Instrumental to	Challenges*				
			1	2	3	4	5
Presentation of concept-note to political leaders	Workshop concept-note presented to the Counsel of Ministers to raise awareness about the issue among Ministers, Directors, and Chiefs.	Advocacy to leaders	X				
Video on chronic undernutrition	Video developed for the workshop and included: Prime Minister, First Lady, Minister of Health, and UN Coordinator Resident in Mozambique.	Advocacy by leaders	X				
Closing discourse by the Prime Minister	The closing attracted attention to the issue. Obtaining the leadership of the Prime Minister was perceived as critical to trigger actions nationally.	Sense of importance	X				
Attendance of the closing session by high-level actors	National director of public health presented the workshop results to ambassadors and high representatives of UN agencies and NGOs.	High priority status	X				
Regular communication with donors (through the Nutrition Partners Forum)	Updates on the workshop planning progress were shared with donors during some of their meetings and via the exchange of information with members participating in those meetings.	Communication, maintaining interest	X				
Inclusion of key sectors in the workshop (nutrition health and agriculture)	Better understanding the problems can turn more actors into advocates of nutrition through considering the impact of their interventions on nutrition and seeking nutritional benefits.	Leveraging health and agriculture for nutrition		X		X	
Focus on community interventions	Community workers are a critical delivery channel to reaching greater numbers of people with programs and interventions.	Focus on high-impact actions			X		
Explicit focus on implementation	The most effective interventions to improve nutrition were presented in the introductory session with case studies from implementers. However, a focus was on what was needed for effective implementation.	Knowledge on interventions and implementation			X		
Focus on the “how-to”	Participants were encouraged to describe “how” they were doing an activity or dealing with a specific challenge, during presentations and discussions to share experiences and provide detailed examples.	Drawing practical lessons			X		
Choice of participants (in the provinces)	From the provinces, government (medical –chief, public health responsible, nutrition technician, agriculture extensionist, and SETSAN focal points) and partners (representatives of health and agriculture from two NGOs) were invited. Some were decision-makers and others were practitioners with extensive experience of working with communities.	Decision-making, tacit knowledge, linkages between different sectors and organizations			X	X	X
First national nutrition workshop including key sectors and diverse development partners	Information sharing and building relationships between actors across functions, organizations, sectors and levels can strengthen the dialogue and coordination for the planning and implementation of key interventions contained in the PAMRDC.	Awareness, collaboration, coordination, information sharing	X			X	X
Highlight SETSAN’s	The national coordinator of SETSAN addressed participants in the	Motivate	X			X	X

leadership for the coordination of the PAMRDC	plenary several times to ensure that the SETSAN provincial focal points understood their roles of coordination. Her speech moved to stimulate work in the provinces.	SETSAN's leadership and actions in provinces					
Engage various generations of nutritionists	Senior nutritionists were involved in the planning (one facilitated the workshop) with younger nutritionists and nutrition students.	Increase cohesion within community				X	X
Highlight contribution of NGOs to implement programs	NGOs implement many community programs and they can provide practical insights into what is going on in communities. Key message to the provinces: NGOs should be part of the discussions regarding the PAMRDC.	NGOs' work recognition by govn and learning from practitioners			X	X	X
Optimization of workshop facilitation	The facilitation was developed to favor interactions between participants, encouraging the expression of viewpoints and experience sharing; participants were mixed in several ways for the small group exercises.	Building of relationships across boundaries				X	X
Final presentation by the National Director of Public Health	The National Director of Health presented the main workshop results to an audience that included the Prime Minister, other high-level individuals, and participants in order to support the priorities established by the provinces themselves and share the next steps.	Legitimate actions and inform the Prime Minister and others	X	X		X	
Media strategy	We worked with journalists to include several communication elements (e.g. preparation of media kits to help ensuring accuracy of information in the media close to the workshop days) and to increase news coverage.	Vehiculation of accurate information	X				
Comprehensive consultation process during workshop development	Many actors were invited to contribute by sharing ideas and participating at different stages of the workshop planning. This process also aimed to make them feel that they were part of this initiative.	Develop all the strategies above-mentioned	X	X	X	X	X

*Major challenges in nutrition at the national level that the workshop sought to address incrementally:

- 1: Placing and maintaining nutrition on the list of national priorities
- 2: Acting at scale to increase coverage
- 3: Weak implementation of effective interventions
- 4: Weak or non-existent coordination among various actors at the national level
- 5: Suboptimal interactions between different actors

Note: The challenge of limited operational capacity was primarily addressed through the content of some workshop sessions, and group exercises, but to a limited extent considering the short period of time. In addition, the development of the workshop took advantage of the strategic capacity of several actors working at the central level.

Table 8: Illustrative application of a developmental evaluation framework to the development of the national workshop

What has to be developed?	Developmental evaluation questions
Concept-note of the workshop	What should be the objectives? Who should be the target participants? When should we plan it considering other events? What type of workshop? How can we involve the implementers? What could be valuable documents produced from this workshop to orient our actions? Should we share the concept-note with participants before the workshop?
Development of the agenda	What would be the main topics of the workshop sessions? Who could be the presenters? How can we feature the work of implementers? How can we gather information on challenges, barriers, best practices and innovations? How is the agenda as a whole?
Project with the nutrition students	How could we involve the graduating nutrition students? What type of task could they fulfill? What type of training would this require? How can they participate in the full 3 days? How can they benefit from participating? How can we benefit from their participation? What perspective can they bring?
Video on chronic undernutrition	What could be the focus of the video? What is the core message we want to convey? Who should be the target audience? Who could be featured in the video? How could the video have a higher impact? Who could fund it? How can we sell the idea? Could we provide a copy of the video to participants?
Media strategy	How can we find a journalist to help us with the development of a media strategy? What goes into a media strategy? How can we ensure that the media transmits accurate information? What are the key messages we want to highlight? Should we plan a press release? Would the Prime Minister accept? How can we find out? Who can help? What does it involve? What would be the content?
Pamphlet on chronic undernutrition and the PAMRDC	Can we develop a pamphlet for participants to bring back to their provinces? What should be the focus? Has something similar already been developed? Who could provide support? Would this be done by MOH or with SETSAN? Can SETSAN provide support for the development of it? Who can fund it?
Strategy to reach high-level individuals	How could we provide information to the Ministers about the workshop? How could we convince the Prime Minister to close the workshop? Who else could we engage? How can we reach the 4 high-level individuals and convince them to participate to the workshop? Do we have allies who can help us?
Guide for small group facilitators	How could we optimize the small group discussions? Who could be the small group facilitators? What kind of incentives could we give them? How could we track the different points discussed in groups to be used after to improve community programs? How could we involve some presenters and participants in the development of the guide? What would be the format and content of the small group discussions?
A process for ensuring that invitations get to the right person	How can we invite the most relevant person from the different organizations (indirectly vs. directly)? What is the invitation process for every institution? How can we ensure that once the letters get sent, the appropriate people receive it? How can we use informal communication to accelerate the process?

RESULTS - PART 2

How do the participant workshop expectations and evaluations map onto this expanded set of potential benefits?

This section first presents the expectations and reactions of participants to the workshop, and their expectations regarding potential workshop outcomes. Then, some potential workshop benefits captured, reflected or suggested are presented. Assessing the outcomes of an event such as this workshop proves challenging since many outcomes are often not tangible (e.g.: ideas, relationships), not recognized or may take some time before they can be observed, if they can even be observed at all. Nonetheless, an attempt was made to assess outcomes by conducting two online surveys with participants.

The workshop was highly attended with a total of 183 participants from about 50 different organizations and coming from all over the country. A number of the participants played different roles in the workshop over the 3 days. For most sessions, a core presentation was done with key concepts and issues followed by several case studies presented by implementers and a discussion in plenary or a group exercise. During the closing session, the national director of public health presented a synthesis of the main workshop outcomes in the presence of the Prime Minister and high-level representatives. The video about the problem of chronic undernutrition was presented again for the Prime Minister and the numerous additional people: more than 200 individuals attended that last session. This workshop was a unique opportunity to assess to what extent the use of a national workshop, planned through an inclusive participatory process, produces meaningful outcomes in a national system.

Reactions of participants to the workshop

The reactions of participants to the workshop were assessed through an anonymous end-of-workshop survey completed by a total of 87 participants. **Appendix C** presents a table with the medians and standard deviations of the ratings of each of the 20 statements of the survey by participants using a Likert scale. Additional comments about the workshop were collected one month post-workshop, through an online survey. A total of 36 participants filled in the first online survey that is found in **Appendix D**.

Overall, the reactions to the workshop were very positive. According to participants, the greatest strength was the “sharing of experiences.” The small group exercises, the use of facilitators and the organization were also mentioned as being strong features of the workshop. The workshop content seemed to have been helpful to a majority of participants and some proposed to replicate it at other levels and with other participants. The greatest limitation was the lack of time to cover deeply all the topics and for group discussions. Additionally, the comments expressed a certain doubt about the actions that would result from this workshop, potentially due to a limited capacity from participants and institutions, as expressed in several comments.

Participants’ expectations toward the workshop

Participants expressed four main types of expectations regarding the workshop; **table 9** presents those based on the responses of 44 participants. First, a large majority of them wanted to gain more knowledge on different topics related to nutrition, effective strategies and interventions and general topics in nutrition. Second, some participants expected clear guidance on how to implement specific interventions of the PAMRDC, and especially community interventions. Third, aspects of the social process were commonly mentioned, with people wanting to know how to improve the relationship “between the different sectors,” “between the Government and

NGOs” and “between health or nutrition agents and agriculture technicians.” Participants also referred to “coordination,” “collaboration,” and “partnership.” Fourth, “harmonization” of roles, policies and actions was another type of expectation with participants wanting to learn how to increase coherence and alignment in people’s actions within the system. These expectations highlighted that the roles of practitioners, primarily from the provinces, appeared unclear regarding the PAMRDC; they wanted to get clarity and guidance.

Table 9: Participants’ expectations toward the workshop

Types of expectation	Description
Knowledge	- To gain more knowledge on the interventions and strategies that are effective in communities to decrease chronic undernutrition (“what”); and general topics in nutrition.
Guidance	- To learn “how” to implement those interventions and strategies; - To receive clear guidelines on how to implement the PAMRDC, especially the community interventions.
Social process	- Sharing of experiences; - Learn ways to improve the linkages between practitioners in agriculture, nutrition and health; - To know how to improve the relationships “between the different sectors,” “between the Government and NGOs” and “between health or nutrition agents and agriculture technicians;” - “Coordination,” “collaboration,” “partnership.”
Coherence and alignment	- Harmonization of roles, policies and actions (e.g. incentives given to community agents by different organizations working in a same area).

Expected workshop outcomes (from the participants)

The two online surveys sent electronically to all participants are found in **Appendix D**. A total of 36 participants answered the first online survey and the same number answered the second one. Although the numbers of participants who answered the 2 surveys were the same, most of them were not the same individuals. About 58-64 different individuals on the total of 72 (2 X 36) responses were identified. **Table 10** presents at which level the respondents said they were working. More people working at the provincial level responded to the online surveys, especially for the second survey. People from the provinces may have felt more concerned with

the content of the survey because some questions referred specifically to what was currently happening in their provinces (especially for the second online survey).

Table 10: Respondents to both online surveys

	Online survey #1	Online survey #2 ¹³
In your organization, what administrative level do you work?		
Central	12 (33%)	4 (11%)
Provincial	16 (44%)	24 (67%)
District	1 (3%)	2 (6%)
Community	3 (8%)	1 (3%)
Others (students)	4 (11%)	5 (14%)
Total (respondents)	36 (100%)	36 (100%)

In the first online survey, participants were asked about the outcomes they were expecting from this workshop. The question was: “*if the workshop was successful, what changes would you expect to see one year after in the domain where you work?*” Participants’ expectations regarding outcomes to assess the successfulness of the workshop were high and several elements were predominant. First, the most frequently cited change was “*a decrease in undernutrition*” (13 comments). Some people were more specific by referring to chronic undernutrition, or a specific region or the whole country. Second, many participants mentioned an “*improved coordination*” (11 comments), sometimes referring to multisectorality in general but often times mentioning between the health and agriculture sectors. One person referred to elements of coordination but without mentioning it: “an increase in the communication and cooperation between people involved in nutrition-related activities at different levels.” Additional comments (3) referring to “integration” also had elements of coordination such as “a real integration of efforts between the

¹³ For the second survey, three people from the provinces sent an email mentioning that they had difficulties submitting their answers online. The fact that the survey was done on software in English may have contributed to this problem because respondents had to select “done” at the end of the survey. Upon notice, I sent an email to all participants, mentioning this particularity but it is possible that several participants filled the survey without ever submitting it. Additionally, two people from the central level sent an email explaining that they did not fill the survey because they felt that they did not attend enough of the workshop. As numerous people from the central level attended less than the full 3 days, it is possible that others have felt the same (which could explain the lower number of respondents among people working at the central level). Of relevance, some people tend to change email regularly or have limited access to Internet. Even for the survey one month post-workshop, the message could not be delivered to many participants.

different sectors that truly need to come together to address issues of malnutrition, particularly between health and agriculture.” Third, participants expected to see “*behavior change*” of community members and professionals (7 comments), such as this participant:

“...In my institution, I would like to see 100% of employees with behavior change on the best practices regarding diet diversification, and that 80% of their families knew about diet diversification ... and 60% of rural families knew about good food practices and diet diversification.” (04/16/2012)

Finally, several participants gave concrete examples that they would like to see as a result of this workshop, such as the following:

- “A provincial initiative to address malnutrition with participation from all sectors, private and public;”
- “Introduction of OFSP as a main component in the food intake of communities;”
- “Start many sustainable irrigation projects;”
- “That all the provinces have their provincial PAMRDC and that 2 years after, they have their operational plans finalized.”

Workshop outcomes (online surveys)

In both surveys, participants were asked: “Has something happened as a result of your participation in the workshop (in your work, in your province, perceptions of some issues...)? If so, could you briefly explain?” **Table 11** presents commonly noted workshop outcomes, most of which were similar in both surveys.

Table 11: Commonly noted workshop outcomes

	Online survey #1	Online survey #2
Has something happened as a result of your participation in the workshop?		
Yes	32 (89%)	33 (92%)
If so, could you briefly explain?		
Increased knowledge and understanding (about the problem of chronic undernutrition and what could be done about it)	12 (33%)	14 (39%)
Sharing of information from the workshop with others (presentations, meetings...)	2 (6%)	8 (22%)
Initiatives regarding the Orange-flesh Sweet Potato	3 (8%)	5 (14%)
Potential partnership and/or making useful contacts	3 (8%)	7 (19%)
Training	0 (0%)	5 (14%)
Increased activity of SETSAN in the provinces	0 (0%)	4 (11%)

A total of 32 out of 36 respondents in the first survey and 33 out of 36 respondents in the second survey answered affirmatively, mentioning several outcomes. From those two surveys, the most commonly noted workshop outcome was an *increased knowledge and understanding of the magnitude of the problem of chronic undernutrition, what could be done about it, and that they could play a role to improve the situation* (12 and 14 comments). Several participants also specified their increased level of confidence in their understanding of several issues, like this participant:

“Yes. At present, when I speak about nutrition and food security vs. undernutrition, I speak more confidently because I know that I am not alone and that this is not an exclusive agenda but a participative and inclusive one. We all have space to act and each of us is important.” (04/24/2012)

Another participant who mentioned working for the Government at the central level also expressed having acquired an increased level of understanding of what was happening in the provinces:

“As a result of my participation in the workshop, I acquired a new vision of what was happening at the level of the provinces in terms of community interventions, which helped change my perception regarding habits and practices to be improved and reinforced through experiences of organizations at the community level. Very often, being at the central level, we do not have much opportunity to verify what happen at the community level in terms of good practices, which is a fundamental information in order to develop effective policies and strategies.” (Actors working at central level) (10/11/2012)

The numerous comments falling into this category confirmed that an increase in knowledge and understanding occurred for participants working at both the provincial and central levels. Another noted outcome was the *sharing of information from the workshop with others*, as expressed by this participant:

“I have done a replication to some colleagues from my church; they said it was interesting and they asked me to do the same in other churches, which made me feel very proud and ... I have acquired more knowledge especially related to the involvement of agriculture.” (04/16/2012)

The *sharing of information* from the workshop with others during presentations and meetings was mentioned even more in the second online survey (8 comments vs. 2 comments). The information shared included the divulging of topics of the workshop, the PAMRDC and the projection of the videos (on chronic undernutrition and on project of OFSP), like this participant wrote:

“Yes, we had meetings to divulge the workshop to partners from the agriculture sector of the province where we designed strategies of intervention for the increasing in production of the OFSP in all the districts of the province. In the same meeting, we invited CIP to present its experience with this culture. From this forum, we designed a plan where each partner will disseminate this culture in its implementation zone. I consider this a great gain from my participation in the workshop.” (09/27/2012)

The latter quote also illustrates another noted outcome about the workshop, which relates to *initiatives promoting the OFSP* – indeed, several participants initiated or wanted to initiate projects promoting the OFSP.

An additional outcome mentioned by participants was about *training* that they have carried out after the workshop. Most training was directly for activists or extensionists and focused on nutrition topics. One instance being the training expressed by the following participant: “...We improved the performance of the technicians by submitting them to several trainings that talk about nutrition.” (10/08/2012)

Another outcome of the workshop referred to *potential partnerships and/or having made useful contacts* during their participation in the workshop. This outcome was explicitly mentioned several times in both surveys. However, in other cases, specific examples of new initiatives that most likely involved new partnerships were referred to, but participants did not consider those as an outcome or did not give enough details about them to be considered in **table 11**.

An additional noted outcome from the workshop relates to the role of SETSAN in the provinces, which could be characterized as an *increased activity of SETSAN in the provinces*. One participant expressed that “...the involvement of SETSAN members in the seminar was a plus for the multisectoral discussions at provincial level.” Others mentioned that there had been “more regular contact between the SETSAN provincial level secretariat and partners” and that “SETSAN provincial people carried out meetings and discussions and that good relationships were observed between members of SETSAN and different sectors and partners.” Those participants attributed these changes to the workshop. Considering that SETSAN was given the mandate of coordinating the activities of the PAMRDC, an increased activity of SETSAN in the provinces is a very important outcome. One participant referred to a “small conflict about coordination issues” in one province, discussing that people from different institutions felt they had the sole authority to coordinate (DPS vs. SETSAN). This challenge of authority will be important to keep in mind because it will most likely continue to surface as more provinces move forward with the development of their provincial plans. This challenge also highlights the importance of communication and having forums for actors from different institutions to exchange information and discuss critical issues.

As presented in **table 11**, participants shared about six main specific outcomes. It is also interesting to note that they gave examples of *outcomes that occurred at different levels* and attributed them to the workshop, like in the following examples:

At the individual level:

“After the workshop, I particularly used several aspects (linkages between agriculture and nutrition, selection of the type of culture, experience in the organization of activists) to design new interventions that my organization hopes to carry out shortly ... the information shared at the workshop gives us the possibility to continue using the knowledge generated at the workshop.”
(04/17/2012)

At the organizational level:

“In my organization, several changes that were as much strategic as operational occurred:

- 1) Strategic: The activities inherent to the reduction of undernutrition started to be seen as a problem of everyone and not only with a health component. The projects started to be designed and implemented in an integrated manner (agriculture, health, education, markets, etc.) and an integrated plan of nutrition was elaborated.
- 2) Operational: The community groups of nutrition benefit from the materials regarding production, conservation and use of foods. There are two cases (one woman and one child) who were rehabilitated by the nutrition group of Pitolha.” (09/27/2012)

At the community level:

“Yes, a change occurred in my work after my participation to the workshop. Besides strengthening the activities of implementation in the community groups in the district where I work, which were 3 before, there was an expansion for an additional one 4 months ago, which lead to a total of 4, currently in 4 communities. Also, a strong establishment of concrete actions were noted in the communities, like for example, the administration of enriched porridge using the local and available products by the own communities, visits to mothers and children with problem of undernutrition, intensification of the production and consumption of moringa (using the leaves for producing juice, in the tea, in the food or mixed with porridge, after its processing in powder)....” (09/27/2012)

Although it is not possible to know if the outcomes mentioned by participants really occurred or if they were really a result of their participation in the workshop, the fact that they do attribute those outcomes to their participation in the workshop expresses a certain stimulus and/or increased level of confidence about different aspects of community interventions discussed at the workshop. Regarding the organizational level, the fact that, from the provinces, two people from the same organization came together to the workshop, one from nutrition or health and one from agriculture, may have produced a positive dynamic between some of those participants within their institution.

In addition, considering that an expected outcome of the workshop was an improved coordination, it is relevant to look at several quotes that do illustrate some improvement in this area:

“Something happened yes, now I am trying to locate the NGOs that operate in my province to coordinate with them. Before the workshop, I did not do this because I was afraid to be misunderstood. Now I can say that the doors were opened.” (04/16/2012)

“Better coordination with other nutrition implementers in the country; better linkage with the agricultural counterpart in my program; better coordination with the DPS – nutrition department.” (09/27/2012)

Those affirmations suggest a certain improvement participants attributed to the workshop, but participants rarely explicitly mentioned an improved coordination as an outcome of the workshop. However, if we look at some verbs they used in their description of outcomes such as “to communicate,” “to discuss,” “to share,” “to meet,” and “to coordinate,” it is likely that coordination had been improved to some degree and in certain cases as an outcome of the workshop. Indeed, more communication and interactions between diverse actors is likely to be a catalyzer for improving coordination and important to look at, especially considering that coordination is difficult to measure. Thus, the fact that the workshop has *stimulated more interactions between different types of actors* can be considered an important and additional outcome of the workshop that is likely to lead to some longer-term effects.

In order to further assess potential outcomes of the workshop, a second question was asked to participants: “*Following the workshop, are there ideas or actions you intend to do or implement that you can attribute to your participation in the workshop?*” In the first online survey, a total of 33 out of 35 respondents answered affirmatively and gave concrete examples of projects they would want to carry out as a result of their participation in the workshop; four categories of intentions are presented in **table 12** with specific quotes to illustrate each of them.

Table 12: Intentions of actions from workshop participants

Intentions	Illustrating quotes
Provincial efforts to decrease undernutrition	<p>“Strategizing meetings to better address chronic malnutrition in my province and revitalizing SETSAN programs;”</p> <p>“A provincial effort to address malnutrition;”</p> <p>“I intend to carry out formal meetings for the diffusion and implementation of activities in the PAMRDC with colleagues from the province, from governmental and non-governmental institutions;”</p> <p>“The idea that I have is to locate the NGOs and meet with them and the institutions and directorates of agriculture, commerce and industry, public works, social services, and finances to elaborate a multisectoral plan.”</p>
Production of document to support actions	<p>“I want to write a “brief” about the summary of the linkages between agriculture and nutrition and use part of this to propose actions that can be included into the investment plan for the agriculture sector, regarding the CAADP.”</p>
Program focus of implementers	<p>“It did reinforce our impression that SETSAN needs more support both technically and institutionally and we have decided as an organization to collaborate more actively with SETSAN. The workshop also reinforced our decision to work on further integration of nutrition and agriculture;”</p> <p>“We are discussing now how to integrate stronger nutrition elements into some of our programmes.”</p>
Advocacy and promotion of specific projects	<p>“Promote the cultivation of OFSP. I already had this activity included in the activities linked to the PAMRDC, but the presentations made me realize how important it is, and the need to link with other practitioners at the level of the interventions, for example health;”</p> <p>“Advocate in the school curricula to have community interventions in the area of nutrition.”</p>

Those examples testify that participants had many ideas and intentions after the workshop. Although we do not know if those specific ideas and intentions were truly realized, in the second online survey, the latter question was modified to inquire about actions that actually happened: “*Since the workshop, are there ideas or actions you did or implemented that you can attribute to your participation in the workshop?*” The most often cited outcome was regarding different trainings given after the workshop. The following quotes illustrate the diversity of some actions that participants attributed somewhat to their participation in the workshop:

- After the workshop, the DPS followed-up effectively on the preventive activities and control of undernutrition. Trainings were given to community leaders, practitioners of traditional medicine and traditional midwives on adequate care and nutrition practices, and on the package of counseling for infant feeding. The code of marketing of breast milk substitutes was divulgated to the district government;

- 1) Identification of organizations or institutions that have activities that contribute for the reduction of chronic undernutrition; 2) Formation of the provincial team of the PAMRDC; 3) Beginning of the elaboration of the provincial plan for the reduction of chronic undernutrition; 4) Recommendation to the district services of economic activities and to the program of OFSP to expand this culture (OFSP) to diverse areas of the province;
- Yes, we had to make some changes in our key messages, and we started to give more weight to the topics linked to the supplementation of micronutrients like iodine and iron, which were less emphasized...;
- Yes. I managed to get funding from my organization to support a follow-up Provincial level workshop to review where we currently are and plans for the future on the subject. This was very successful with full participation from partners.

Thus, the intentions of participants did lead to some actions after the workshop. It is legitimate to question whether those actions would have been implemented regardless of the workshop. It is certainly possible that some of those would have been carried out, but from the 2 online surveys, there is no doubt that the workshop has stimulated some work in the provinces that led to considerable outcomes and at different levels.

Finally, in online survey #2, a question regarding the PAMRDC was added to collect updates on what was happening (or what participants perceived was happening) in the provinces. The question was: *“Could you share latest developments regarding the PAMRDC that you are aware of in your region? (If possible, could you describe with enough details and mention the specific province that you are referring to or mention if it is at the central level?).* Here, the aim is not to attribute those actions to the workshop because many other actions occurred in order to advance the work. However, some observations are noteworthy as they provide relevant insights about the status on the situation of the PAMRDC at that time and about the perceptions of participants:

- Meetings (multisectoral and with various partners) occurred in several provinces to divulge to different people and organizations the PAMRDC;
- Multisectoral teams were formed in several provinces;

- The planning phase had begun in some provinces but many provinces were not there yet;
- The province of Tete was often cited as an example or model and other provinces wanted to learn more from their experience; nonetheless, people from Tete also did experience difficulties that they recognized themselves;
- Several participants did not know about recent developments and were waiting to hear about the next steps;
- Many participants mentioned that there was limited funding for the implementation of the PAMRDC in their province.

A final quote illustrates a challenge mentioned about a specific activity to advance the implementation of the PAMRDC (mapping exercise):

“Initially we started coordination meetings with government (SETSAN-Agriculture) to plan for provincial campaign to reduce chronic malnutrition. We even sent a delegation to Tete to learn from their experience and develop an action plan for the province. However, (an organization X) apparently hired a consultant and charged him with the responsibility of coming to the province to do what we were already doing (but starting from zero). Based on that we stopped our initiative and we are still waiting to hear from (the organization X) or the consultant.” (10/05/2012)

This quote expresses the challenge of balancing between providing guidance from the central level vs. leaving freedom for initiative in the provinces. This point was well recognized by people from the central and provincial levels, and not only for community interventions. However, it is critical for people at the central level to be in close communication with people from the provinces in order to know their situation and support them. People at the central level certainly do not want to carry out activities that would slow-down or compromise the efforts at the provincial level. To the contrary, many of their meetings aim to find ways to better support the provinces. Nonetheless, limited and suboptimal communication between actors, and organizations, and across administrative levels may have dire consequences.

RESULTS - PART 3

How can we provide plausibility-level evidence of effects of the workshop by using a complexity lens to examine processes, outcomes and attribution?

Researchers applying a mode 1 traditional lens may be unsatisfied or have certain criticisms with the evidence previously presented about the workshop outcomes. First, they may consider the survey responses as a “soft proof” because participants reported on their own actions. Second, they may think that this evidence is insufficient to be attributed to the workshop. Third, they may qualify the outcomes as being low impact or of limited reach. Such concerns illustrate the importance of using an evaluative framework that considers the nature of potential workshop outcomes, because relying on an inadequate framework may miss important contributions within the national system. This requires close observation of three aspects: processes, outcomes, and attribution, which are examined in the following section through the use of different frames. A *complexity lens* is used to reveal a set of stream benefits that could emerge from the workshop and are important to recognize, even if they cannot be definitively documented and attributed to the workshop. *Contribution analysis* is used to deal with the problem of attribution, using evidence brought thanks to a direct engagement with actors in this setting. A *framework to assess consensus-building approaches* is adapted to examine the workshop processes and outcomes.

Complex adaptive systems or Complex Co-Evolving Systems (CCES) have common characteristics that are important to consider when seeking a deeper understanding of complex systems. **Box 1** defines some of those characteristics, which are useful to keep in mind for the remainder of this chapter.

Box 1: Characteristics of complex adaptive systems and CCES (from the abstract...)*

EMERGENCE

“Properties, qualities, patterns, or structures that emerge from elements, often described as ‘more than the sum of the parts.’”

NONLINEARITY

“Small action can stimulate large reaction.”

CONNECTIVITY AND INTERDEPENDENCE

“A decision or action by any individual (group, organization, institution, or human system) may affect individuals and systems.”

ADAPTIVE

“Interacting elements and agents respond to each other, and to their environment so that what emerges is a function of ongoing adaptation but among interacting elements and in the responsive relationships interacting agents have with their environment.”

UNCERTAINTY

“Under conditions of complexity, processes and outcomes are unpredictable, uncontrollable and unknowable in advance.”

COEVOLUTIONNARY

“...the evolution of one domain or entity is partially dependent on the evolution of other related domains or entities.” Coevolution also “includes reciprocal influence and change within a co-evolving ecosystem.”

*Source: Mitleton-Kelly (2006) and Patton (2010)

These abstract characteristics apply to various elements of complex systems. A national workshop that involves actors who form different networks or sub-groups in a national system is a complex system (composed of multiple sub-systems). **Box 2** presents more concretely what those characteristics refer to, involving, for example, the consideration of feedback loops, multi-level interaction and multiple influencing factors. In the present case, the diversity of ripple effects that may be produced by a national workshop or other similar efforts involving multiple processes needs to be better understood and captured. This requires a different mindset aligned with mode 2 research, as is illustrated in the following section, as well as understanding those characteristics and how they manifest in complex systems, bringing additional insights.

Box 2: Characteristics of interventions in complex settings (...to the more concrete)

- “Are embedded in social settings, and hence subject to numerous exogenous influencing factors;
- Are trying to change the behavior of individuals and groups of individuals;
- Involve feedback loops generating unplanned activities or strategies;
- May involve emergent outcomes;
- Do not allow for experimenting with the implementation of the intervention as a whole or the other influencing factors;
- Usually are made up of a series of or multiple project-level interventions, often implemented over time; and may involve multiple levels of government and authorities.”

Source: Mayne, (2011), pp.57-58

Analytical frames

A first useful frame regards attribution, which is one of the most difficult questions to address. In the present case, the challenge is to determine to what extent some observed and noted outcomes can be attributed to the workshop, and what elements contributed to those outcomes. From the field of evaluation, regarding the evaluation of complex systems, Mayne affirms that, “attempting to show that one particular factor or program intervention ‘caused’ the effects makes no sense.” He proposes a model for “inferring causality in real-life evaluations” that he refers to as “contribution analysis” to show that the program made a difference, and thus was an important influencing factor [90]. Establishing the links between activities (processes) and outputs is not much of a challenge, but fully attributing some processes to outcomes remains considerably more difficult, partly because of the influence of many uncontrollable factors [91]. Contribution analysis brings useful insights for this purpose and is further explained with a specific example.

Another relevant frame developed by Innes and Booher [59] is a framework for evaluating collaborative planning; it is very useful because the workshop processes and the outcomes produced may present similar characteristics to consensus-building processes and their outcomes. The fact that many outcomes are intangible, unpredictable or difficult to anticipate or

measure brings a certain challenge to their identification and assessment. **Table 13** presents an adaptation of this framework to assess different types of outcomes also including terminology typically used for monitoring and evaluation. The definitions should be taken as a guide and not absolute, as the lines between the categories are blurred. Examples of several workshop outcomes captured after this workshop are also included. The effects can be tangible or intangible. *Tangible products* are easily identified and recognized and include formal agreements (plans, policies, proposals, agreed-on data analyses) [59]. The workshop produced some tangible products as presented in the outputs of **figure 4**.

In contrast, *intangible products* are difficult to identify or recognize (e.g. relationships, trust, improved communication, and alliance) and may take some time before manifesting. These may be even more important than the tangible ones, so they need to be accounted for. The tangible and intangible products produce effects that can be qualified as *1st, 2nd, and 3rd order effects*. Those different orders are not easily delineated, but they can orient for the captation of different types of effects that cannot be pre-determined. Only the 1st order effect can be anticipated or planned for. The 2nd and 3rd order effects emerge as a result of the influence of multiple factors. The 2nd order effects can quite easily be attributed to the intervention but the attribution is much more difficult for 3rd order effects, and any effects emerging beyond 2nd order effects can be considered 3rd order effects.

Table 13: Framework to assess various types of effects (with illustrative examples about the workshop)

Effects (comparable to)	1 st order effects	2 nd order effects	3 rd order effects
Tangible	(Outputs and immediate outcomes) Definition: effects that can easily be attributed to the workshop and can be pointed to. <ul style="list-style-type: none"> - Workshop outputs: several documents produced for different audiences to feed back information on different issues into the national system - Priorities and next steps defined by the provinces presented by the National Director of Public Health at the workshop (presentation sent to all participants afterwards) 	(Intermediate outcomes) Definition: effects triggered by the workshop processes and outputs, but that are somewhat difficult to attribute to the workshop without investigation. <ul style="list-style-type: none"> - Brief on the summary of the linkages between agriculture, nutrition and health - Visit to Tete province by workshop participants from Nampula province (report produced) 	(Long-term outcomes and impact) Definition: effects that are difficult to attribute to the workshop, but triggered by secondary outcomes of the workshop. <ul style="list-style-type: none"> - Advocacy strategy developed by the province of Nampula - Inclusion of a nutrition component (nutrition education) into the investment plan in agriculture
Intangible	(Immediate outcomes) Definition: effects that can easily be attributed to the workshop when identified and investigated, but that are not easily identified. <ul style="list-style-type: none"> - Building of relationships and trust between several participants - New emerging ideas - Increased knowledge and understanding regarding different issues - Sharing of information from the workshop with others 	(Intermediate outcomes) Definition: effects triggered by the workshop processes and outputs that are difficult to be identified. <ul style="list-style-type: none"> - Increased attention given to the PAMRDC by political actors - The Prime Minister requested an update on the status of the implementation of the PAMRDC, 4 days after the invitation to do the closing discourse of the workshop and to participate in the video was sent electronically to his advisor, and 18 days before the workshop. 	(Long-term outcomes) Definition: effects that are difficult to attribute to the workshop unless shared by the participants themselves and that are difficult to be identified. <ul style="list-style-type: none"> - Collaboration between members of different organizations - New awareness

Adapted from Innes and Booher [59]

Importance of reaching quality outcomes

Before presenting examples to illustrate the evaluative framework, the importance of reaching high quality outcomes needs to be highlighted. Innes and Booher emphasize the importance of not only reaching agreement, but also of reaching “high-quality agreement” through optimal processes. **Box 3** describes a process at the workshop designed using several tactics to lead to a high-quality outcome, illustrating that this concept also applies to broader processes and not only consensus-building approaches.

Box 3: High-quality outcome: common priorities for the provinces presented to the Prime Minister

On the third workshop day, a summary of the main themes that emerged from the presentations and discussions was presented to the audience. For one of the latest sessions, before the arrival of high-level actors in the afternoon, participants were asked to continue to reflect upon and discuss the four following questions in small groups by province:

1. If you were attributed funding for the implementation of the PAMRDC for a period of 2 years, which activities would you prioritize?
2. Independently of the existence of additional funding, what could you do with your current conditions?
3. After having spent 2 days discussing different actions to improve nutrition and health, what do you think you could do personally to improve some aspects of your work or the work of your organization?
4. What is the support that you would need from the central level?

After the discussion, each group presented their priorities in a large plenary session. The main points in common to all provinces were summarized and included in a final presentation about the workshop outcomes and prepared by some organizers. After reviewing himself the presentation, the National Director of Public Health gave this presentation to an audience of more than 200 people including the Prime Minister, Vice-Minister of Health, ambassadors, high-level representatives of many organizations and workshop participants at the closing session. The common priorities from the provinces were the following:

- 1) To form multisectoral groups at the level of the province;
- 2) To develop a provincial plan for the reduction of chronic undernutrition considering the local opportunities and resources available;
- 3) To involve development partners in the processes of planning and implementation;
- 4) To carry out a mapping of the interventions that are already implemented in the provinces;
- 5) To train community groups and divulge key messages for improving the nutritional situation in the country;
- 6) To intensify the activities of nutrition education;
- 7) To advocate for an extension of the maternity leave to support exclusive breastfeeding.

After the workshop, those priorities represented the next steps and oriented the work at the central level to better support the provinces along those different steps.

Despite that the workshop process presented above was not based on a comprehensive consensus-building process because of time constraints (among other factors), no one seems to have ever challenged the priorities presented at the workshop. Many provinces took on these priorities after the workshop. Several tactics were included in the design of this last exercise done by workshop participants, which may have helped to lead to an overall high-quality outcome, as presented in **table 14**.

Table 14: Tactics to increase the probability of reaching high-quality outcomes

Tactics	Potential contribution
Presence and engagement of various leaders	The participation of various leaders showed a certain level of support and elevated the event and issue. The inclusion of decision-makers and political actors was also favorable to engage them and increase their awareness on what the provinces were going to work on more intensively. The processes were strategically designed to be participatory and inclusive of multiple and diverse stakeholders and decision-makers.
Giving a public view	Considering the public nature of the “agreement” on priorities (by provinces), the next steps were presented in front of a strategic target audience, and put together into a document, tangible products that have the potential to produce many ripple effects within the system. People who did not attend the workshop came only for this session so the attendance was very high.
Building on commonalities	The process was designed to engage many actors related to the workshop to build on commonalities proposed by all the provinces, and to involve relevant and legitimate stakeholders in the development process and be part of the audience. The development process also led to a concept-note in which many people contributed and agreed on the different elements and overall concept.
Engagement of many actors to lead to a common achievement	Considering the involvement of many actors in different processes related to the workshop (e.g. case-studies by implementers, planning process in one province featured as a model, workshop development process at the central level), the workshop was a common achievement by multiple actors in the national system. The closing with discourse from the Prime Minister and the presence of many people brought a visible and positive closing, and was the recognition of all the work done by the various actors present.

This last activity is an illustration of a *high potential for systemic effect* to foster multiple actions in the national system, which illustrates the potential for a transformational system change. All those activities and strategies were part of a “system change process” related to the operationalization of the PAMRDC of which the workshop was only one part of a much larger initiative. Chapter 4 further examines this larger PAMRDC effort. In sum, the process created a

public view, which elevated this nutrition problem to a higher status. The numerous tactics or strategic elements were used in such a way that the workshop fostered a type of public engagement regarding priorities for the provinces that became also supported by leaders through their speeches. The comprehensive and inclusive consultation process engaged different types of actors from various institutions in the process. Therefore, although we could not predict the potential priorities and how things would unfold at the workshop, the use of various tactics and strategies to develop the workshop activities could help in increasing the likelihood of reaching high-quality outcomes.

Principles of a good decision process can also be helpful to increase the chance of leading to high-quality outcomes. Hill *et al.* (2011) developed a set of principles based on a review of various academic fields and policy domains and explored the perspectives of several policy actors on the desirable features of such process. When study participants were asked if they would accept the decisions resulting from a good process respecting those principles, all participants responded affirmatively (n=20) [92]. This points to the evidence that good processes lead to outcomes that are also more likely to be accepted by the actors involved. These principles were developed to apply to decision processes, but also appear applicable to assess larger processes. **Table 15** presents those principles and illustrative tactics about the workshop processes.

Table 15: Principles of a good decision process applicable to broader strategic process

Principles of good decision process	Tactics and potential contribution
1. Involve the right people	<ul style="list-style-type: none"> - Multiple actors and institutions (Government, NGOs, UN, donors) from various sectors (agriculture, health, nutrition) were included as they all have a critical role to play regarding the PAMRDC. At the workshop, decision-makers and high-level actors also were engaged as they can move a ship in one direction or another. - Having a great diversity of participants enriched the workshop discussions by providing various perspectives and taking advantage of different expertise.
2. Involve people the right way	<ul style="list-style-type: none"> - The comprehensive consultation process allowed for developing interest in the workshop and in responding to different needs and agendas. - During the workshop, the use of workshop co-facilitators and small group facilitators kept people focused on the topics. - The ideas that shaped the whole event came from the aggregation of the suggestions and discussions of numerous actors from various organizations; it engaged many people in the process. - The choice of having two workshop facilitators for such a large group was good because they complemented each other. Participants also commented that they liked having facilitators in the small group discussions, which helped them understand the exercises and/or questions.
3. Clear, organized procedure and objective	<ul style="list-style-type: none"> - Having a small group of people who worked at night and sometimes during presentations to have rapid analysis and compilation of certain information (and develop outputs) was effective and necessary to develop various outputs. - After each day, organizers, facilitators and nutrition students worked to compile and summarize the information from the presentations and small group discussions. The summary of the previous day was presented at the beginning of each day, and the work was divided among many people. - The facilitation guide included a detailed schedule, not only of the presentation and its content, but the work that different actors needed to achieve to carry out the various activities.
4. Focus on securing common interest	<ul style="list-style-type: none"> - Several outputs were developed based on common agreements reached through certain activities. Some of these outputs were then presented to high-level actors. - Building on commonalities was key to engage people in a process and led to the presentation of common priorities for the provinces.
5. Transparency and accountability	<ul style="list-style-type: none"> - During the development and planning processes, documenting the decisions and preparing minutes after meetings eased the negotiation. One challenge during the development and planning processes was that the people coming to the meetings were often changing because of their other commitments. The written documents helped to keep people informed and gave continuity to the processes.

As illustrated in **table 15**, the principles of good decision process can apply not only to the decision-making process, but also to the aggregation of various processes that can work synergistically to achieve a broader goal.

Application of various frames to the workshop outcomes

In the following section, the framework adapted from consensus-building approaches is applied to the outcomes noted by workshop participants and presented previously from the first online survey. **Table 16** illustrates that the most frequently expected workshop outcomes mentioned by participants were 2nd and 3rd order effects, which are the type of outcomes most difficult to assess. Some of those outcomes are also intangible, which adds another level of difficulty to account for their existence. In contrast, the ideas and intentions from participants after the workshop are all 1st order effects because those ideas and intentions are a direct manifestation of an idea they attribute to their participation in the workshop. If those ideas and intentions lead to actions, then, those actions would represent 2nd order effects. **Table 16** also illustrates that many of the cited expected outcomes or ideas have a potential to produce local and systemic effects.

Table 16: Most frequently cited workshop expected outcomes, and ideas and intentions

Expected workshop outcomes	Order Effects			Tangible	Potential reach	
	1 st	2 nd	3 rd		Local	System
Decrease in undernutrition			x	Yes		x
Improved coordination		X				x
Behavior change of community members and professionals		X	x		x	x
Specific projects:						
- Provincial initiative to address malnutrition		x		Yes	x	
- Introduction of OFSP as a main component		x		Yes	x	
Ideas and intentions from participants after the workshop						
Provincial efforts to decrease undernutrition	x			Yes		x
Production of document to advocate/support actions	x			Yes	x	x
Influence on decisions of implementers on program focus	x		x		x	x
Advocacy and promotion of specific projects	x			±	x	x

Table 17 presents the most commonly noted workshop outcomes by participants, thus representing a higher probability that the workshop was a significant contributing factor leading to these outcomes (compared to only ideas and intentions).

Table 17: Commonly noted workshop outcomes

Commonly noted workshop outcomes	Order Effects			Tangible	Potential reach	
	1 st	2 nd	3 rd		Local	System
Increased knowledge and understanding (about the problem and effective interventions)	x					x
Sharing of information from the workshop with others (presentations, meetings...)	x			Yes		
Initiatives regarding the Orange-flesh Sweet Potato		x		Yes	x	
Potential partnership and/or making contacts	x					x
Training		x				x
Increased activity of SETSAN in the provinces		x	x			x
Increased understanding of the role that different actors can play regarding chronic undernutrition	x				x	x
Increased communication and interactions between actors from different organizations	x				x	x
Specific ideas and intentions of actions	x				x	x
Provincial efforts to decrease undernutrition		x	x		x	
Changes or additional considerations regarding existing programs		x			x	
Advocacy and promotion of specific projects		x	x	±	x	
Creation of multisectoral group in several provinces		x	x	±	x	
Elaboration of the provincial plan			x		x	x
Follow-up provincial level workshop or event		x	x	Yes	x	x

Many of those outcomes are 1st order effects, thus they can be more easily and directly attributed to the workshop and could be somewhat anticipated, for example, the increased knowledge and sharing of information concerning the workshop objectives. Nonetheless, there are considerable noted outcomes of 2nd and 3rd order effects. Examining solely the 1st order effects would under-represent the potential for systemic change. Taken as a whole, the use of this framework highlights the existence of 2nd and 3rd order effects that could not be anticipated, but

that hold promise if those were carried out as mentioned by participants. When using complexity concepts, those outcomes in a complex adaptive system suggests they are only one fraction of all the actions that could continue developing. Small actions such as having an idea can potentially lead to a large reaction. This analogy helps to envision the potential for a transformational change process in a national system. This awareness also points to the additional potential that could also be fostered if the design of a strategy would also consider how those 2nd and 3rd order effects could be further catalyzed to trigger additional outcomes and spread actions in other parts of the system.

Use of the frames with documented examples

A few documented examples, coming from opportunistic feedback from several workshop participants, support the frames, showing how those different order effects occurred and exploring the potential contribution of some strategic dimensions and elements of the workshop to those outcomes.

Example 1: Following an idea: a provincial initiative to reduce chronic malnutrition

Several weeks after the workshop, a message was forwarded to me from a workshop participant who wanted to let me know what the workshop had initiated in one province. The message in **box 4** was sent by a decision-maker, who participated in the workshop, to some of his staff who also participated in the workshop. An idea emerged from his participation in the workshop and he wanted to move forward on it with involvement from several key actors.

Box 4: Electronic message to share an idea that emerged from participating in the workshop

04/04/2012

Person A,

After the meeting of nutrition in Maputo (March), I became interested in the possibility to launch an initiative to reduce chronic malnutrition in Nampula. The institution delegated to lead the initiative is SETSAN and we are going to have a meeting with them tomorrow, from 8h-9h at the SETSAN provincial office.

Person A, if you and person B have time, please participate in the meeting.

Person C and person D, if you are curious, you are welcome, as we cannot reduce malnutrition without agriculture.

Also, Dr. person E, from UCODIN will participate.

Thank you,
Signature

Ideas are important effects that are difficult to assess and account for, and we do not know if those ideas lead to concrete actions. After this message, I did not hear about this initiative until another workshop participant sent me a report several months after. I made the connection between those much later when I realized that the same participants were involved, and they discussed how the idea evolved; **box 5** presents a summary of the report content.

Box 5: Collaboration, joint mission, and advocacy strategy as workshop outcomes

Context: The northern province of Nampula is one of the most productive provinces in terms of agriculture; however, 55% of children under 5 years of age were affected by chronic undernutrition in 2011, the highest prevalence in the country.

Idea:
(1st order) Five representatives from DPS, DPA, Save the Children (SC) and Africare participated in the national workshop on community nutrition held in Maputo in March 2012. In light of one recommendation issue from the provinces at this workshop stating that each province should develop its own provincial PAMRDC, an idea emerged about developing an advocacy strategy in the province of Nampula to increase awareness so that everyone feels included and joins efforts in the fight against chronic undernutrition.

Collaboration:
(1st order) Several meetings followed, which involved SETSAN, SC, the Provincial Directors of Health and Agriculture, and the Unit of Coordination of the Integrated Development of Nampula (UCODIN) to further develop this idea and coordinate an initiative that would involve the various institutions.

Joint Mission, creation of a partnership:
(2nd order) These meetings led to the undertaking of a multisectoral mission to the province of Tete (June 2012), the first province having undertaken multisectoral work and developed its provincial plan regarding the PAMRDC. The objectives of the mission were:

- 1) To collect the best practices, innovations, challenges and barriers experienced by the technical group of nutrition at the provincial level;
- 2) To develop and present a proposal on how the province of Nampula will develop its own provincial PAMRDC.

Representatives from SETSAN, DPS, SC, and Africare participated in the mission, illustrating the creation of a partnership to advance the implementation process.

Advocacy strategy:
(3rd order) The actors developed an advocacy strategy that included:

- 1) Advocate to the Governor of the province so he can facilitate the engagement of all sectors, especially the ones more directly linked to nutrition;
- 2) Whenever needed, work with SETSAN centrally due to their competency on the topic and legitimacy to discuss the issue with the provincial government;
- 3) Seize all opportunities at provincial, district and local levels to solicit a short time to talk at some events about the problem of chronic undernutrition;
- 4) Extend advocacy to informal sectors (e.g. traditional medicine) considering their important influence on communities;
- 5) Once the provincial PAMRDC is developed, have a declaration of commitment signed by the Governor, the provincial directors, and the civil society;
- 6) Work to convince NGOs to develop a collaborative campaign using various techniques to reduce chronic undernutrition in the province.

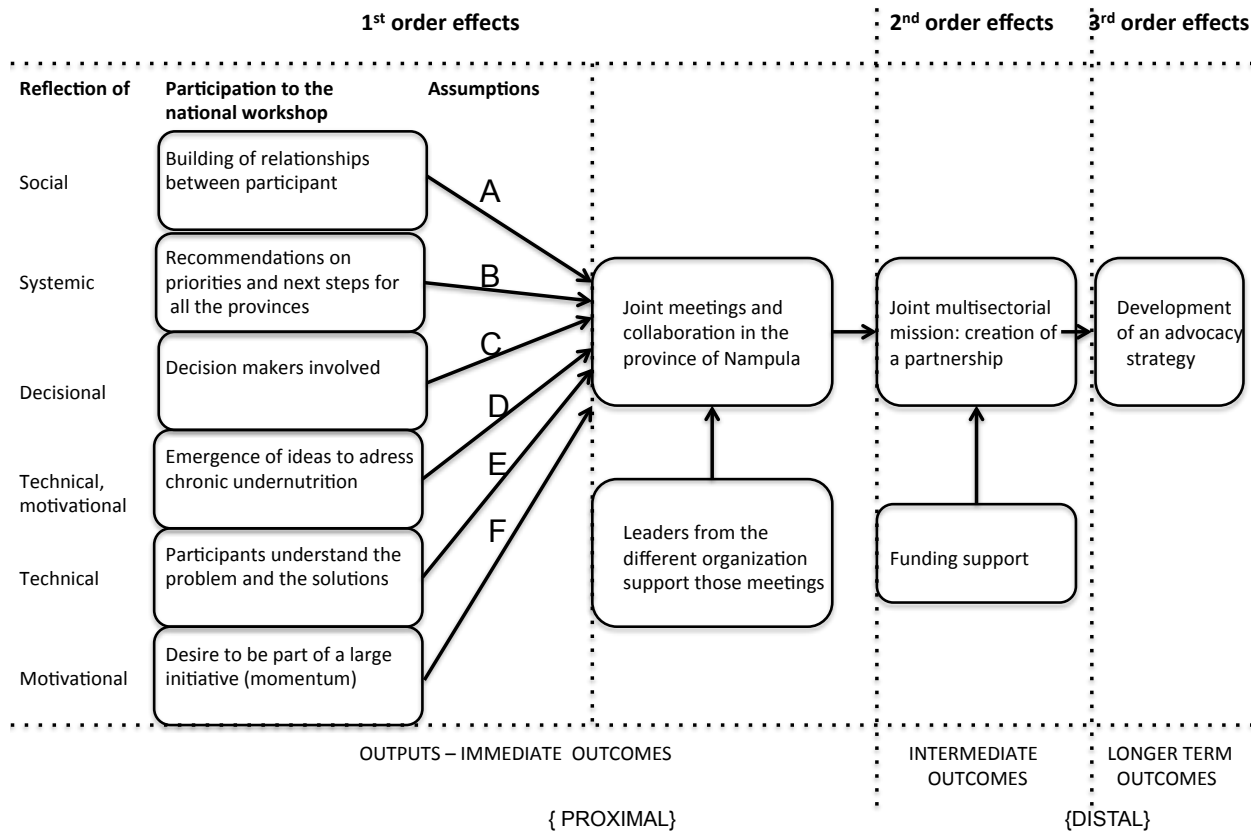
Proposal for developing provincial PAMRDC:
(3rd order) This report also proposed several steps to develop the provincial PAMRDC: A group needs to be created with one person representing each sector. These people should be highly motivated and available to dedicate themselves to this task. Sub-groups can be created for certain tasks to ensure an effective and efficient development of the plan. Ensure the inclusion of the activities of the PAMRDC provincial into the provincial plans of each sector to guarantee sustainability and help the attribution of funding. A timeline was presented in this document for other follow-up activities.

Source: SETSAN, Government of the province of Nampula, *Report from the sharing of experience with SETSAN, province of Tete, in the context of the elaboration of the PAMRDC* (Portuguese document), June 2012, 12p.

The example presented above illustrates the different order effects produced and the presence of several influencing or contributing factors. **Figure 5** presents a reconstruction of how several elements played out based on the example in **box 5**. We can see that the different factors are a reflection of the various dimensions targeted by the workshop objectives (strategic dimensions), which adds to the probability that the workshop contributed to the noted outcomes.

This example can help address some challenges faced when trying to assess and account for the outcomes of complex interventions within a complex system. Not only do those frames help for the identification and assessment of various types of outcomes, the attribution problem can be dealt with through looking at contribution analysis. This calls into question the idea that we cannot act upon complexity because things are uncontrollable and unpredictable. We may not be able to anticipate all the outcomes, but with the use of principles, strategies, tactics, tools, and instruments, we can develop and seek to increase the likelihood of reaching positive outcomes, through considering various strategic dimensions, as presented before in **table 6**. The strategic dimensions proposed are not mutually exclusive, but they can be helpful in raising our awareness to find ways to address them when planning broad strategy. This idea of planning intentionally strategic processes is embodied in strategic capacity.

Figure 5: Effects cascade: reconstruction of participants' experience in Nampula



Legend

- A: Positive Assumptions: - The workshop fosters interactions between participants who can begin developing relationships. Building relationships encourages people to further engage and pursue the discussion after the workshop.
Risks and Alternative Scenarios: Some controversial points are raised in the discussions, which can divide different types of actors.
- B: Positive Assumptions: Group participation is effective. Provinces agree on some priorities and there are commonalities between them, which can be gathered and presented as a joint agreement.
Risks and Alternative Scenarios: There is disagreement among participants in the groups by province or there are no common priorities between provinces, leading to difficulties in establishing priorities and next steps for the provinces as a whole.
- C: Positive Assumptions: Decision-makers are involved at the workshop or are brought on board thanks to participants to make decisions that positively influence actions addressing chronic undernutrition.
Risks and Alternative Scenarios: Decision-makers are not brought on board and do not encourage actions to address chronic undernutrition or take decisions that have a negative influence.
- D: Positive Assumptions: Participants develop an awareness of the problem.
Risks and Alternative Scenarios: Participants are passive recipients of the workshop and do not participate.
- E: Positive Assumptions: The level of technical content of the workshop is tailored to the level of understanding of workshop participants.
Risks and Alternative Scenarios: Workshop participants do not fully understand the workshop content.
- F: Positive Assumptions: Participants become engaged and want to take action.
Risks and Alternative Scenarios: Participants do not engage in the workshop or the fight against chronic undernutrition.

Far from wanting to use a mechanistic input-output frame, the evidence presented in this chapter aims to support the use and applicability of these broader strategic and analytical frames. **Figure 5** was developed based on the information written by workshop participants in a report, to their own initiative. Such information is most of the time not known or sufficiently accessible to enable attribution of an outcome to an action. The use of contribution analysis can be helpful; over time, more evidence on the different outcomes may be accumulated, strengthening the different links in the construction of linear models to understand the change process. Indeed, in the field of evaluation, various types of linear models, such as logic models, program theory, program impact pathways, participatory impact pathways analysis, results chains and others are used for planning or to draw inferences in programs evaluation. Those all share the idea of attribution, from one element to another one, with the intention of developing the theoretical linkages of attribution, the closest to causality. When seeking to assess the outcomes of complex interventions in a complex system, such as this national workshop, a similar line of attribution can be developed to orient us to go where the light is and potentially capture those effects and maybe even produce additional actions to act as catalysts to those ideas, intentions, and relationships.

Example 2: Following an intention: development of a brief to influence the agriculture sector

As presented in **table 12**, a workshop participant had shared his intention of an action in one of the online surveys:

“I want to write a ‘brief about the summary of the linkages between agriculture and nutrition and use part of this to propose actions that can be included into the investment plan for the agriculture sector, regarding the CAADP.” (1st order effect)

Several months later, this participant shared with some actors including myself, a brief that s/he had just written with other actors in the agriculture sector and some key lessons are presented in **box 6**.

Box 6: Brief on the potential contribution of the agriculture sector to reduce chronic undernutrition in Mozambique

Context: Actors from the agriculture sector participated to the national workshop; it included people from SETSAN, the National Directorate of Agriculture, the Institute of Agricultural Research in Mozambique (IIAM) and from the Department of Agrarian Policy. After the workshop, they wrote a 6-page document brief.

Brief: tool to raise awareness (2st order effect) The objective of the brief was to summarize, document and divulge the main results and experiences from the agriculture sector presented at the workshop. The brief highlighted how the workshop contributions could influence decision-making regarding additional investments to increase linkages between agriculture and nutrition in the context of the African Comprehensive Plan for Agriculture Development (CAADP) in Mozambique. The brief presented the different ways that agriculture can contribute to nutrition, through:

- 1) Producing more food (or increase production);
- 2) Producing more nutritious foods to improve nutrition;
- 3) Producing diverse cultures to increase diet diversity.

Information-sharing (2nd order effect) The brief also included actions agreed upon after the workshop, during a meeting of the working group GT-PAMRDC:

- 1) Create the working groups in the provinces;
- 2) In the initial phase, prepare the provincial PAMRDC in 3 priority provinces: Cabo Delgado, Nampula, and Zambezia;
- 3) Map the policies, plans and interventions of FSN in communities.

One of the authors sent the brief electronically in August 2012 to all the workshop participants, making it a readily available tool to raise awareness among other people. Making the brief also available on the internet increased the access to this information.

In this example we do not know if the brief influenced any actor in the agriculture sector. The brief shared recent information as agreed by the members of the GT-PAMRDC, which was an opportunity to disseminate updates as follow-up, especially useful for participants in the provinces. This example leads to another activity that deserves attention. **Box 7** presents another example related to nutrition in the agriculture sector that is somewhat connected, illustrating the

interconnectedness between the workshop and the broader development of the operationalization of the PAMRDC, and allowing to draw important lessons.

Box 7: Window of opportunity: including nutrition-related activities in the financing plan of the agriculture sector

Complex ripple effects	<p>Illustration of the interconnectedness and complexity of various elements</p> <p>Mid-April 2012, about one month after the workshop was carried out, the GT-PAMRDC had a meeting to discuss different issues including the interventions mapping. At this meeting, someone made a presentation and requested to the group to participate in the development of a draft of the financing plan for FSN of the agriculture sector (Plano de investimento do Sector Agrário para a Segurança Alimentar e Nutricional). A huge challenge was that the deadline to give comments was rapidly approaching. Thus, only 2 people participated, not from nutrition, and others declined the invitation. As shared with me, this person attended the meeting of the GT-PAMRDC and thought it was the perfect forum to address the issue. Although s/he was trained in agriculture, s/he was said to be convinced of the importance of including nutrition into this investment plan.</p>
Reflection from a direct participation	<p>As a direct participant, having done an in-depth reflection on this experience, I can now say that I consider this a lost opportunity for nutrition. Since I was interested to know more about it, the person from agriculture sent me a draft from mid-April, and nutrition education was included with a component of behavior change to influence the family food habits. I do not know if the nutrition component in this plan was kept and further developed. I only carefully reviewed the document at a later point in time, as this initially coincided with an intense moment for the planning of the exercises for interventions mapping in the provinces and the latest period of my time with this community.</p> <ul style="list-style-type: none"> - Clearly, a ‘window of opportunity’ to strengthen nutrition in the financing plan of the agriculture sector (for FNS) was present, but we (nutrition people at the meeting) did not seize that opportunity; - The intensity of the work and various pressures and demands from many actors (government, donors, NGOs, various working groups) renders prioritization difficult; - Many demands and important work do not fall into anyone’s specific ‘obligation,’ mandate or TOR. These demands require actors to take on additional activities because they care about it, but that comes as additional “non-mandatory work.”
Conclusion	<p>As a final word and as illustrated in the remainder of this dissertation, the linkages between sectors need to be built because the formal structures are almost impeding some types of collaborative work between sectors. The workshop was an opportunity to help develop linkages but it was only one strategy, part of a bigger picture that is complex and predominantly not well understood.</p>
Lesson	<p>It is critical to always stay aware to recognize opportunities (to advance nutrition or others) and seize them when they present themselves. Doing so would benefit from ensuring the existence of cross-boundary agents that have the skills and responsibilities to play such role.</p>

Later, in a discussion (interviewed for the Q-study), this person from the agriculture sector had expressed disappointment about that situation and mentioned that s/he thought the GT-PAMRDC, which was formed to help for the coordination of issues related to FNS, was the perfect group to respond to this demand. What other multisectoral group could have done so? In sum, an important lesson from this experience is that windows of opportunities not only need to be taken, but also they first need to be recognized.

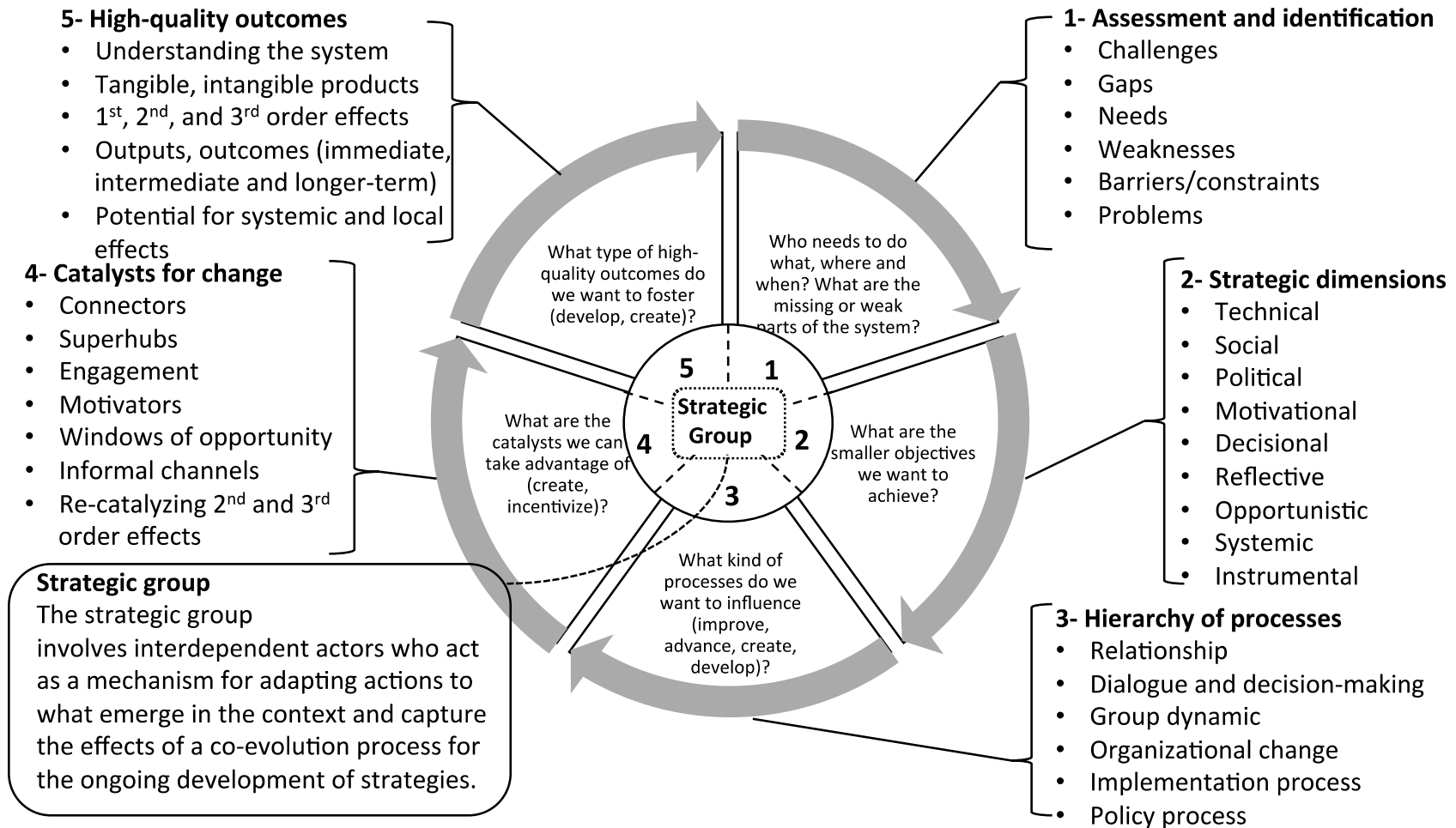
Finally, these examples illustrate the importance of increasing our awareness that unintended, unexpected and unanticipated outcomes may be produced as a result of such workshop or other strategy. Through the use of an evaluative framework that can help direct our intentions on those types of intangible and various order effects, we are more likely to be able to strategically design and more comprehensively assess a potentially powerful, complexity-appropriate instrument such as a national workshop. In addition, this section also illustrates the numerous factors that can influence whether, how and to what extent positive (and negative) outcomes may arise from such an instrument. The following section presents a framework developed based on the practical experience in Mozambique and that builds on the present chapter using elements from strategic system thinking to consider processes and outcomes in a system through a guide raising awareness on important elements.

Description of a framework for strategic system thinking

Considering that complex systems are characterized by unpredictability, limited controllability and considerable uncertainty, a mechanism for adaptation can help constantly assess and adjust actions to the emerging context. **Figure 6** presents a framework, based on the experience in Mozambique, that can provide practitioners with a systematic process to develop strategies and tactics to address problems they face. Without making any claim for comprehensiveness, the framework can help raise awareness on critical categories of factors that are more likely to produce high-quality outcomes, while also taking advantage of opportunities emerging from the context. Tactics are the building blocks of broader efforts and strategies and many examples were provided at the beginning of this chapter. Tactics can be relatively small processes that add a plus-value while addressing various strategic dimensions for effective systemic change process.

The framework was built retrospectively with data collected prospectively during direct participation in the work. The categories of the framework emerged from an extended analytical process involving the use of all data sources and memoing, with many of those categories having been discussed throughout this chapter. The framework is also in line with the DE approach, as we constantly re-evaluated our methods in order to adapt our actions to what emerged in the context. The elements related to each of the five questions are presented as illustrative because other elements or types of response may be applicable. The following section elaborates on the various elements of the framework and provides descriptions of how the different steps were carried out.

Figure 6: Framework for strategic system thinking



Strategic group

The strategic group involves interdependent actors who act as a mechanism for adapting actions to what emerges in the context and capture the effects of a co-evolution process for the ongoing development of strategies.

In Mozambique, one “informal strategic group” was composed of a number of individuals from various organizations who were constantly interacting to advance documents, plans, and programs in nutrition. The strategic group carried out various types of actions. Each individual brought diverse types of knowledge and information as they pertained to different groups (Government, donors, UN, academia); thus, they were all part of various sub-systems and networks. We mostly interacted informally, taking advantage of time in-between formal meetings, to discuss ideas and tactics key to achieving broader goals.

In **figure 6**, the strategic group is depicted by a dotted-line to illustrate the fluidity of the group members because actors could move in and out depending on their other commitments, but it was restricted to a small number of key actors. The proposed five “steps” of the framework are more an ongoing iterative questioning (as illustrated by the dotted-lines) done by the individuals of this group to help consider a number of elements. The dimensions presented in **table 6** at the beginning of this chapter, representing the various objectives of the workshop, refer to the dimensions necessary to help develop effective strategic processes. Before presenting the five different steps of the framework, **table 18** presents how the workshop is comparable to a complex adaptive system. A parallel is drawn while providing some examples to illustrate a further analogy with the multisectoral work.

Table 18: Examples of characteristics of complex adaptive systems and an analogy with the national workshop

Characteristics/ Description*	National workshop on community nutrition
<p>Emergence “Properties, qualities, patterns, or structures that emerge from elements, often described as ‘more than the sum of the parts.’”</p> <p>Nonlinearity “Small action can stimulate large reaction”</p>	<ul style="list-style-type: none"> - The head of the Department of Nutrition attended the SUN meeting (in NY) with one representative from a UN agency, who was highly involved in the work of the PAMRDC. Our small strategic group watched the SUN promotional video, which triggered an idea to create one for the workshop. During a meeting with a journalist, more ideas were expressed: “a video could be a great opening for the workshop” and “maybe we can have high-level people in it.” - This led to the realization of a video in which 4 high-level individuals pronounced a message regarding chronic undernutrition and the PAMRDC. The video was then used as an advocacy tool throughout the whole national system. - Many ideas emerged during the workshop development. When those were shared between relevant individuals, captured (consultation process) and further discussed (development meetings), many of those ideas allowed for the development of the workshop concept and related activities. The inclusive planning process was key to capture ideas that led to unexpected actions with high potential for large reaction in the national system.
<p>Connectivity and interdependence “A decision or action by any individual (group, organization, institution, or human system) may affect individuals and systems.”</p>	<ul style="list-style-type: none"> - The interdependence of actors and institutions was also illustrated with the workshop. The MOH needed funding to be able to carry out the workshop. The focus of the workshop was implementation of community interventions, and considering that NGOs are major implementers of those interventions, they were highly involved regarding the content of the workshop. Donors wanted to support the PAMRDC, but had difficulties in determining the best way to support it. Any advocacy instrument to send messages were welcome and the workshop was one such opportunity. UN agencies are supporting the MOH so they provide technical expertise, but the government takes on their broad strategies (e.g. UNICEF materials for community nutrition) and adapts it. Therefore, those institutions are highly interdependent and for the workshop, we took advantage of this interdependency.
<p>Coevolutionary “...the evolution of one domain or entity is partially dependent on the evolution of other related domains or entities.”</p> <p>Uncertainty “Under conditions of complexity, processes and outcomes are unpredictable, uncontrollable and unknowable in advance”</p>	<ul style="list-style-type: none"> - The workshop was an instrument that stimulated actions in the national system. It created new order such as having different actors implementing new ideas. Actors at the workshop made connections with other actors that are also part of the same national system, creating a new sub-system that represented a support system with additional resources for the other sub-systems these actors were already part of. The creation of this sub-system increases the connectivity of actors. In addition, the ripple effects of one action could more easily extend to the other sub-systems, increasing movements and reactions related to the PAMRDC within the whole national system. - The development process of the workshop brought new awareness and allowed connections between different types of actors to arise. - The outputs of the workshop were used in the system, but also, many different types of effects attributed to the workshop benefited the processes for the implementation of the PAMRDC.

<p>Adaptive “Interacting elements and agents respond to each other, and to their environment so that what emerges is a function of ongoing adaptation but among interacting elements and in the responsive relationships interacting agents have with their environment.”</p>	<ul style="list-style-type: none"> - A few stakeholders at the central level formed an informal strategic group. They were in constant communication to reflect on actions carried out regarding the implementation of the PAMRDC and strategize to advance different functions of the nutrition policy process. - The meetings and informal discussions (in person and over emails) allowed for the consideration of and responding to many agenda needs, resources issues, perceived challenges, etc. - As a group we worked like a mechanism fulfilling an adaptive role to different elements in the system. It also oriented data collection to answer several questions regarding the workshop. - Regarding the workshop, I have also played the role of adaptation as I was the person in contact with most of the actors involved.
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*Source: Mittleton-Kelly (2006) and Patton (2011)

<p>1. Who needs to do what, where and when? What are the missing or weak parts?</p>	<p>Assessment and identification Challenges – Gaps – Needs – Weaknesses – Barriers – Constraints – Problems</p>
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During initial concept-note development for the workshop, many questions were discussed to determine whether the workshop should involve only the central level or if participation should be broadened to include all the provinces. Our discussions led to a decision to develop a better understanding of the needs in parts of the national system if we wanted to improve the implementation of the PAMRDC. Therefore, an assessment was carried out using a stakeholder analysis to respond to this questioning. We utilized a training session of participants from the provinces, working in the area of nutrition in the capital city, to interview several actors (potential workshop participants). This illustrates seizing a window of opportunity (step #4). Seizing this opportunity led to a better understanding of the challenges they faced in their work: challenges that had implications for the implementation of the PAMRDC, which was guiding the workshop development. We became aware of multiple challenges that were not addressed, and tried to envision ways the workshop could begin addressing them. Other tools or methods can be used to do an assessment of the situation but the stakeholder analysis was helpful in identifying the target for workshop participants. Another tool was the extensive consultation process that

allowed for assessing the situation and work done by various types of actors. Examples of decisions taken in light of the analyses carried out were:

- If we want multisectoral planning to happen in the provinces, we need to create multisectoral teams and make crucial linkages between agriculture and health sectors, thus, involving actors from those two sectors;
- If we want decisions to be made and things to change, we cannot only include technicians because they will go back to their provinces without the power necessary to carry out any change discussed during the workshop. Therefore, decision-makers need to participate;
- Considering that SETSAN at the central level had the mandate for coordination, we needed to ensure leadership in the provinces; thus, it was critical to involve SETSAN focal points in the workshop and have them understand the role they can/should play.

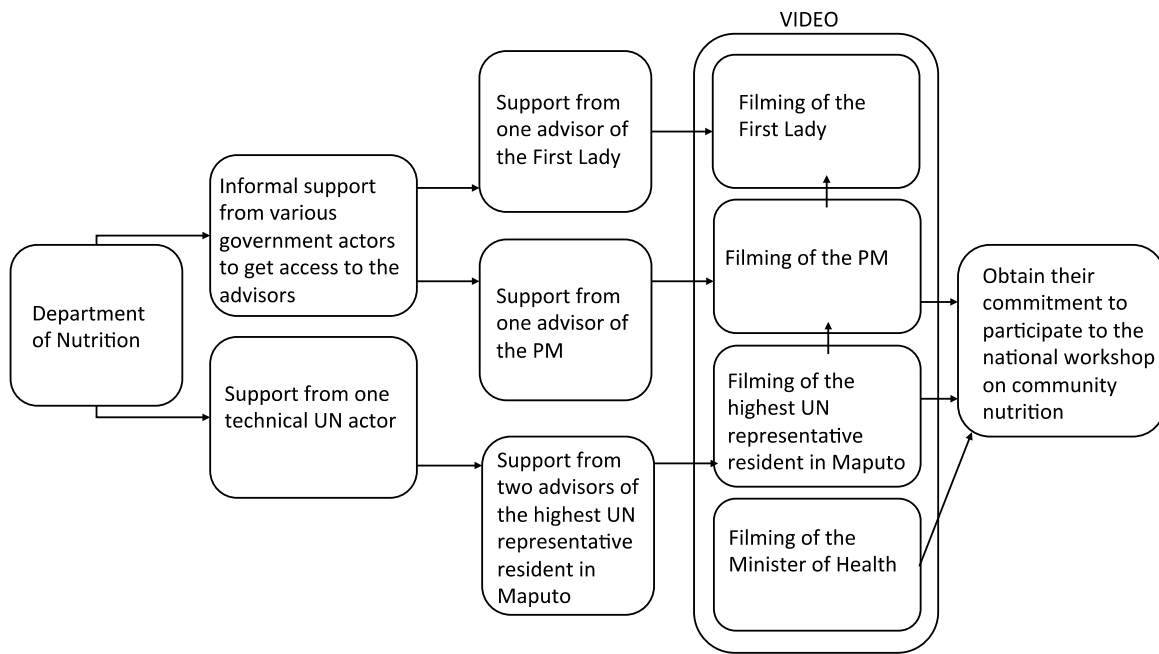
Therefore, once we better understood some challenges in the system regarding the implementation of the PAMRDC, we could determine all the small objectives we wanted to achieve (iterative and back and forth between the various steps).

2. What are the smaller objectives we want to achieve?	Strategic dimensions Technical – Social – Political – Motivational – Decisional – Reflective – Opportunistic – Systemic – Instrumental
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Those dimensions are all important but some may appear more promising if prioritized over others in certain circumstances. An example related to reaching high-level individuals to participate in the video is illustrative of the need to consider various elements in developing tactics. Obtaining the participation of high-level individuals in the workshop required tremendous efforts and tactics. We first sent formal letters to explain the projects and invite them. However, one day, we found the letters we had sent for the Prime Minister and the First lady with the drivers; they had not left the MOH as planned, and were waiting to be delivered for days because

of an insufficient number of vehicles and other unknown reasons. At this point we realized we needed to find some tactics to reach our bigger objectives. Those were unplanned, but we had to respond to the evolving context. It also required immense follow-up for all our actions to ensure all problems were addressed in a timely manner. When we first noticed that the letters had not been delivered, we were already trying to find alternative access to the different advisors because they were not easily accessible. After we were able to contact the advisors of high-level actors, the communication process intensified as we followed-up with them, pushing in a diplomatic manner while attempting to seize any windows of opportunity that opened. This will be further illustrated in the following chapter, but **figure 7** presents a simplified scheme of the tactics carried out with the various lines of contacts used. For the video, the first person we got on board was the highest UN representative resident in Maputo. Her positive response became a triggering factor when contacting the advisor of the Prime Minister, emphasizing that we had just filmed with the highest UN representative. When we filmed with the Prime Minister, this served as additional positive influence to convince the advisor of the First Lady to pay attention to us, sending the message that this was an important event for her to engage with. This example also illustrates that many ‘filters’ are present before reaching high-level political individuals. If they do not pay attention to an issue, it does not necessarily mean that they do not care; it may simply be that they were never informed of a situation. This emphasizes the importance of following-up, and using diverse incremental actions that can be triggering factors, which are necessary to elevate an issue to a certain threshold where enough momentum is created in order to make progress with a significant number of factors and actions, leading to desirable high-quality outcome.

Figure 7: Tactics to reach high-level political actors



This figure also illustrates the importance of considering the political strategic dimension. The framework not only helps raise awareness that the political actors were important to consider during the workshop planning process, but also that various strategic dimensions can be used to develop tactics to reach those individuals, for example, the use of advisors, who are one part of the social dimension. In addition, our strategy of indicating that one high-level person had already filmed was helpful to increase the level of positive influence needed to engage the others. This example also illustrates that using only the formal communication channels (through formal letters signed by the National Director of Public Health or the Minister of Health) would not have been sufficient in obtaining their participation. A crucial lesson from the workshop is that the informal channels open the possibilities but the formal channels legitimize the actions, which is further demonstrated in the following chapter. **Table 19** presents additional examples of documented outcomes from the workshop and related to the various objectives and strategic dimensions.

Table 19: Documented outcomes illustrating the strategic dimensions

Strategic dimensions	Objectives	Documented outcomes
1. Technical	<ul style="list-style-type: none"> - Expose current situation in maternal and child health in Mozambique; advocate for agriculture and health sectors to get involved; collect data on programs and interventions countrywide; provide updates and materials. 	<ul style="list-style-type: none"> - The most commonly noted workshop outcome was an increased knowledge and understanding of the magnitude of the problem of chronic undernutrition, what could be done about it, and that they could play a role to improve the situation.
2. Social	<ul style="list-style-type: none"> - Build relationships between different actors across geographic areas, sectors, areas of expertise, and organization types; share viewpoints and experiences among participants; instigate a common reflection. 	<ul style="list-style-type: none"> - The numerous projects cited by participants and even narratives they provided in official documents testify that new relationships were built, leading to new actions as a result of their participation in the workshop.
3. Political	<ul style="list-style-type: none"> - Convince high-level individuals to participate in the workshop and video; have them convey key messages for workers in the national system in Mozambique; increase their awareness and commitment to the problems. 	<ul style="list-style-type: none"> - The participation of high-level actors in the workshop and video was successful and it also increased attention. As presented in the following chapter, their participation in the video and workshop, increased interactions and most likely produced certain desirable actions, leading to an increase in awareness, understanding and commitment.
4. Motivational	<ul style="list-style-type: none"> - Value the work done by many groups present; carry out an inclusive process that recognizes that all actors have a role to play; listen to what participants have to say; present the multisectoral experience of one province, providing an example on how multisectoral can be carried out. 	<ul style="list-style-type: none"> - The workshop allowed the creation of many different types of ideas and intentions among participants. The intentions did lead to more actions that the participants themselves attributed to the workshop, assessed from the online surveys, opportunistic feedback and official reports.
5. Decisional	<ul style="list-style-type: none"> - At the technical level, formulate concrete actions to be taken in each province, and share common priorities with political and high-level actors; produce different types of knowledge to orient MOH and partners actions. 	<ul style="list-style-type: none"> - Decision-makers were involved in the workshop, and there is evidence that their participation influenced some of their decisions, for example, producing program changes. In addition, evidence was presented that decision-makers not participating in the workshop were also brought on board afterwards.
6. Systemic	<ul style="list-style-type: none"> - Foster actions and coherence in the national system; contribute to improve coordination and increase system commitment; articulate principles for community work; identify challenges and areas for 	<ul style="list-style-type: none"> - The participation of a number of people from all the provinces in Mozambique acted as a catalyst in their provinces afterwards. The inclusion of participants from Government and NGOs, and from agriculture and nutrition or health fostered

	improvement; help to increase the alignment of NGOs' work with government priorities.	an increased collaboration and partnership between those institutions, and helped develop the multisectoral character of the initiative. Other sectors would have been key, however, realistically, they could not all be included.
7. Reflective	- Throughout the workshop development, use reflective and strategic thinking to develop actions and activities; advance different aspects of the operationalization process at central and provincial levels.	- During the various workshop processes, the discussions often involved a certain assessment of where we felt we were in terms of the broad implementation of the PAMRDC. The focus on community nutrition was a way to narrow down the scope of the multisectoral work, and many other conscious choices were made along the way to ensure reaching our numerous goals in advancing the work.
8. Opportunistic	- During the workshop processes (consultation process, workshop, other activities), take advantage of opportunities that present in the context; meet the needs of various agendas to align actions; disseminate information that others can also utilize to fulfill their objectives; be proactive when opportunities come.	- During the consultation process, actors involved shared information on different programs and events, which led to certain opportunities for the workshop, as well as for other activities done by implementers and Government. Thus, it is important to stay flexible and open to various things, seizing the opportunities when they come because they can hardly be anticipated.
9. Instrumental	- Help to advance the overall operationalization process of the PAMRDC; ultimately, contribute to increasing the effectiveness of interventions with a potential to improve nutritional outcomes countrywide.	- This workshop involved numerous strategies and tactics in order to achieve the workshop objectives, but the workshop was instrumental to advance the planning processes in the provinces. Thus, this workshop was an effort, but also represented an instrument to achieve broader goals. It was instrumental to many other initiatives happening at that time.

3. What kind of processes do we want to influence (improve, advance, create, develop)?	Hierarchy of processes Relationship – Dialogue and decision-making - Group dynamic - Organizational change - Implementation process - Policy process (decision functions)
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In this framework, there is recognition of a variety of embedded processes that can help leading to high-quality outcomes; this is what a hierarchy of processes means. As mentioned before, an assumption in this study is that by better understanding the various processes we are part of, we can better influence them. The evidence presented in this chapter indicates that several

criteria can increase the likelihood of producing high-quality outcomes and **box 8** presents some effective process criteria. This applies to dialogue processes, but also to all kinds of processes related to a particular work. A practical way this can be helpful is by using the criteria for good process. Thus, the inclusion of different strategic elements influencing the various dimensions (technical, decisional, political, etc.) address critical elements of a strategy; and for each of those dimensions, processes need to be crafted. For example, if the processes are inclusive, include technical content, have a motivational aspect, include decision-makers or actors who can influence decisions, produce tools and instruments that can be used for advocacy in the system, then, the strategy is more likely to lead to high-quality outcomes.

Box 8: Examples of effective process criteria

- Be inclusive and have different actors who have diverse perspectives interact;
- Consultation can allow meeting different types of needs in the system and foster synergy between various actions;
- Engaging process in which we heard and valued what participants say and do.
- Insightful – providing different examples of ways of doing things differently (case study from programs) can trigger the emergence of ideas to address ones' own challenges;
- Collaborative encouragement of people to work together and see the role they can play in the system;
- Involve higher authority, decision-makers and leaders at different levels;
- Open and positive atmosphere and safe space to generate and discuss creative ideas;
- Diversified activities and processes to share ideas (small group discussions, plenary, writing, informal discussion during break-out sessions, reporting from observers at the end of each day) to accommodate different expression needs;
- Participatory and active learning.

Source: Adapted from Innes, and based on the workshop experience

An important feature of the process to develop this workshop was engaging participants through playing specific roles. The engagement of a multitude of actors in the whole national system was also framed as a common work that led to a common achievement. Indeed, 54 actors, mostly implementers were consulted at the onset and contributed their ideas to the workshop

concept-note; a core group of 18 actors who participated in the development meeting process, many of them playing the role of small group facilitators; 14 nutrition students played the role of note-takers and debriefed with professionals at night during the workshop; 11 case-studies were presented by implementers from the provinces and 13 general presentations mainly from actors at the central level. In addition, even the Prime Minister who closed the workshop participated in the video that was also presented in front of a full room. Therefore, the engagement of many participants is likely to have helped to explain some outcomes observed, documented and others that were not even accounted for. This important awareness is the beginning of the extraction of the ‘theory of change’ post-experience that can help explain elements of the practice that appeared successful in Mozambique: the engagement appears to have been critical, and will continue to be explored in the following chapter.

Also related to another process, in the case of the workshop, we paid particular attention to implementation processes. In this context, actors explicitly chose to discuss implementation because we knew it was a major component needing attention in order to improve current interventions. Despite that this choice brought up concepts we were less familiar with, we made this explicit choice early on, leading to an objective of the workshop being improving implementation. This choice oriented the exercises planned. For example, at the workshop, participants worked in mixed groups to discuss their experiences, but also to highlight challenges they were experiencing and draw principles to work effectively with communities, which were discussed in plenary. **Box 9** presents an extract from the concept-note about this explicit focus on implementation process, a higher hierarchical process.

Box 9: Workshop focus on implementation process

Another type of process of importance considered during the workshop development was the implementation process. In the workshop concept-note, the following description was included to make this focus explicit during the workshop development:

“The second day will explicitly focus on important components and factors that need to be optimized in order to improve not only program design, but also implementation. The following quotes illustrate well the importance of looking at both - the interventions and the implementation, justifying that this workshop focuses on both aspects:

“Ineffective programs can be implemented well. Effective programs can be implemented poorly. Neither one is desirable. Desirable outcomes are achieved only when effective programs are implemented well.”

“The challenges and complexities of implementation far outweigh the efforts of developing the practices and programs themselves.”

“Implementation is synonymous with coordinated change at system, organization, program, and practice levels.” [93]”

Therefore, this workshop will help in identifying the best practices & innovations and challenges & constraints/barriers regarding different components of program implementation.

Over the course of the analysis for this dissertation, one striking finding was related to a broader process that we did not have clear in our minds at that time, which is the overall nutrition policy process (findings discussed in chapter 5). Understanding better the larger policy process we are part of can bring tremendous advantages to tailoring the activities to address our challenges. This lack of understanding may have contributed to the fact that many times, we started actions and moved to others without giving continuity to previous actions. For example, there was the creation of the nutrition group for the health sector and we began to work on the development of the operational plans for this section. However, after investing time and effort, we stopped and moved on to different tasks, as other pieces of the work appeared more urgent, and we were also responding to numerous external pressures. If we had a better and common understanding of the policy process and what the operationalization was, this could have eased our work and helped us make enlightened decisions. Chapter 4 proposes a conceptualization of the operationalization process to help practitioners visualize the work they are doing related to

broader processes. This is an awareness that I gained later in the latest analytical process; it is further discussed in chapters 4 and 5.

For the development of this workshop, many tactics came from ideas gathered during a comprehensive consultation process. Many actors in this context used strategic thinking implicitly as we did not say “ok, let’s meet to develop strategy,” but we regularly discussed what actions might facilitate progress on various issues. The tactics are the building blocks of strategies seeking to address various dimensions of a problem in a dynamic, responsive and incremental manner.

4. What are the catalysts we can take advantage of (or create or incentivize)?	Catalysts for change Connectors - Superhubs – Engagement – Motivators - Windows of opportunity - Informal channels - Re-catalyzing 2 nd and 3 rd order effects
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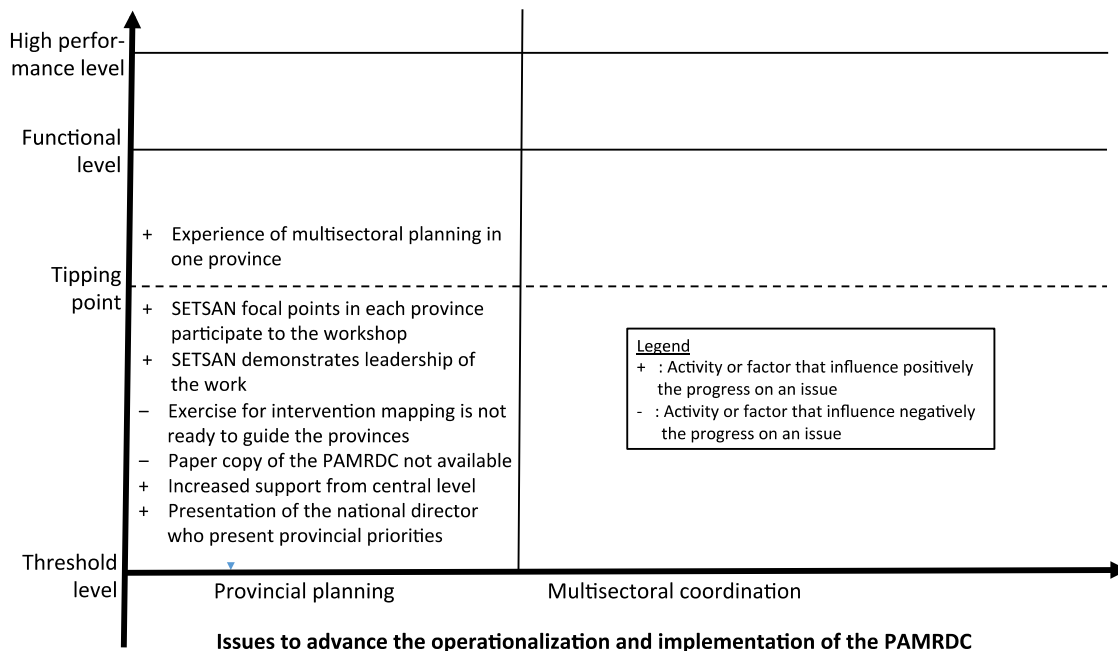
A question that can significantly improve the strategy development concern the catalysts for change and how we can take advantage of them and attempt to have them become triggering events or factors. **Box 10** presents useful concepts to discuss a system’s performance in the context of the implementation of a multisectoral action plan.

Box 10: Useful concepts to discuss a system’s performance	
Key concepts from complexity thinking, including:	
Threshold level:	The point or level at which something begins to change.
Tipping point:	The point in time when the aggregation of the influence of certain actions and factors lead to a change, which can build momentum for reaching a functional level.
Functional level:	The point in which the work accumulated in the system attains a level of functionality.
Triggering events or factors:	Those can happen naturally or be developed. For example, when a strategy is developed with multiple strategic elements included, they are more likely to influence at different levels and act in synergy, leading to more movement and the reaching of a tipping point in the system.

Figure 8 illustrates how the aggregation of several actions can lead to momentum. It is not a precise measure, but rather acts as a sensitizing concept to help envision actions and how they may contribute to a broader achievement. This figure can help practitioners understand that

the implementation of multisectoral work requires a multitude of issues to be dealt with (examples on the x-axis). For each of those issues, a lot of the work is likely to be required at the beginning, for example, to create new groups and have them develop their way of functioning. Thus, the threshold level is difficult to overpass. However, when work is intensified, less energy may be required to move to a higher level of performance. This visualization can help change the mindset to begin thinking that many contributing factors are at play and even help to craft larger and more effective processes through envisioning actions that could help reach a tipping point or may benefit by being carried out simultaneously or sequentially to influence various issues we needed to move forward.

Figure 8: Contribution of a strategy (national workshop) to increase the performance level of a system



With this figure, we see that there is a need to initiate multiple actions in order to increase the likelihood of positive (though not entirely predictable) outcomes and to help attain a functional level. On this figure, we can also envision that a factor can have a positive or negative

influence on a system's performance. When a tipping point is reached, this refers to a momentum that can manifest in the system by movement of multiple actions, an increased intensity, or the emergence of a transformational system change. We can also envision a succession of many issues on the x-axis and those may need to be aligned and may influence each other. This is another illustration of the interconnectivity between the different elements in the system.

In addition, considering the potential multiplicity of influences in a broad national system, negative influences can also spread in the system and have negative overall influences. This emphasizes the importance of trying to ensure that good processes are developed. Using this type of visual can also help to develop smaller actions that could help re-catalyze effects in the system regarding a specific issue. Including this element in the framework can help in a systematic way to raise awareness in a systematic way of the additional benefits of developing tactics and strategies through helping to re-catalyze 2nd and 3rd order effects. These effects could be characterized as “low-input-for-high-gain,” compared to others that needed to move up from the threshold level that could be characterized as “medium or high-input-for-small-gain.” Those effects are also more likely to be “catalysts for change” considering that the actors involved have began a process of engagement, which can enhance future outcomes.

Finally, there was already a momentum in nutrition at the central level and one province had already initiated multisectoral planning because a major donor was providing direct support through an initiative of participatory learning and action. Showing this experience at the workshop was a catalyst for change at the workshop as it showed the provinces that multisectoral planning was possible. It appeared to have spread the momentum to other provinces (with other contributing factors), thus helping to reach tipping points for other provinces to initiate their multisectoral planning.

5. What type of high-quality outcomes do we want to foster (develop, create)?	High-quality outcomes Tangible, intangible products – 1 st , 2 nd , 3 rd order effects – Outputs, outcomes (immediate, intermediate and longer-term) – potential systemic and local effects
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As presented in this chapter, to assess the outcomes of an effort such as a workshop, paying attention to 1st, 2nd, and 3rd order effects requires a different evaluative strategy. It was heavily discussed in the present chapter through the many examples provided. Paying attention to intangible outcomes can benefit from staying in contact or following-up with some of the previous actions, to increase the likelihood of system feedback. In addition, once we have gone iteratively through those five steps, we gain a better understanding of the system, which is the first point proposed in the framework. With an increased understanding of the system, we identify more challenges to be addressed and the strategy development process through strategic system thinking can continue.

CONCLUSION

A workshop of this size and composition of participants can help for a country's mobilization to address undernutrition through galvanizing national attention, which appeared to be needed in the context of Mozambique. This chapter presented the development of a national workshop based on an approach illustrating strategic capacity and embodying characteristics of system thinking. Two approaches of assessing workshop outcomes under mode 1 and mode 2 research were contrasted. A way in which the attribution problem to link processes to outcomes could be circumvented was proposed: the use of contribution analysis [90]. A framework adapted from Innes and Booher [59] to assess various types of effects was introduced with detailed illustrations to help raise awareness among practitioners on potential outcomes of a strategy such as a national workshop. When strategic system thinking is used to develop strategies and tactics, and also assess the outcomes and try to re-catalyze more actions, the potential for systemic transformational change is greater. This chapter has contributed three types of insights, summarized below:

- 1) Framework for strategic system thinking
- 2) Practical recommendations for maximizing system benefits from a national workshop
- 3) Increased awareness of patterns of findings gained from personal engagement

Framework for strategic system thinking

The analysis provided in this chapter led to the development of a *framework for strategic system thinking*, developed retrospectively based on direct engagement in this context. Strategic system thinking could be seen as a component of strategic capacity coined by Pelletier et al. [40]. Indeed, strategies are developed in complex systems; thus, system thinking can bring meaningful insights. Considering the potential for transformational systemic change with system thinking

strategies, and the limitations in the ones available, as highlighted in Swanson et al. [79], the proposed simple framework based on grounded theory and reflective practice within a case study hold promise to serve as a valuable tool for practitioners. Attributing noted workshop outcomes to specific elements of the workshop remained difficult. Nonetheless, this chapter also illustrated how relying solely on tangible 1st order effects may lead to false conclusions about the outcomes of an event like this workshop. The experience of this workshop was a unique opportunity to assess in a dynamic manner both processes and outcomes while trying to address some of the major challenges in nutrition. In addition, this chapter also began to illustrate the strength of investing efforts on small, incremental and strategic steps to make progress, instead of aiming for large steps that are unlikely to be fulfilled. A strategy developed as an aggregation on various tactics can play a significant role: the more strategic elements can be introduced, and principles of good process followed, the more likely meaningful outcomes can be produced and impact the system positively, while also recognizing that the quality appears more important than the quantity.

Practical recommendations for maximizing system benefits from a national workshop

This chapter began by presenting a more conventional evaluation of the workshop that was not capturing the many important effects from this effort. However, this evaluation was helpful in drawing lessons that are applicable to other contexts. This evaluation led to the recommendations for maximizing system benefits from a national workshop; those are presented in **Table 20**.

Table 20: Recommendations for maximizing system benefits from a national workshop

Recommendations	Description
1. Increase opportunities for information sharing and communication between people from different organizations and sectors throughout the entire national system.	<p>At the workshop, numerous participants expressed a clear need to increase communication and the sharing of information between people from different sectors, institutions, and areas. Examples of means to meet this need were discussed in the workshop report. This is a need being recognized and responded to by the development community through various proposals of action (for example, with the development of a guide using a strategic approach to facilitate engagement for knowledge exchange) [94]. In addition, many workshop participants felt that there was not enough communication between people from different organizations and programs, even ones working within the same communities. This was recognized as compromising the coordination of activities and leading to suboptimal outcomes. Participants offered several means to help improve this situation. For example, people from Government entities and NGOs could carry out joint site visits to communities. This practice should be encouraged because it is beneficial for all parties and the communities themselves. At a minimum, it would be an opportunity for communication and information sharing between those people. A likely additional benefit would be the creation of positive relationships between the people involved.</p>
2. Identify forums to discuss several key topics at the provincial level.	<p>As mentioned above, many workshop participants felt that improved communication, coordination and relationships between people from the Government and NGOs would be a benefit at all levels, especially at the provincial level. Optimal practices identified included trimester meetings involving people from Government entities and NGOs. Several provinces had such meetings to discuss various issues such as updates and progress on the implementation of community projects. Those meetings could also contribute to improving the relationships between different types of actors by having them interact more regularly and in constructive ways. In addition, participants highlighted several important issues in which tremendous benefits could be reached if they were discussed at the provincial level (and agreements reached or solutions found): 1) incentives given to community volunteers or agents; 2) follow-up on projects/programs to improve sustainability; 3) monitoring and evaluation of community interventions.</p>
3. Provide training and resources in nutrition to different programs and/or sectors.	<p>Increasing the awareness and understanding of the problem of undernutrition can lead to more actions by diverse stakeholders; several outcomes of the workshop supported this claim. Some workshop participants said they better understood the role they could play to improve nutrition. After the workshop, participants were motivated and had ideas for actions they could take to contribute to improving the situation. Those outcomes are important because they support the assumption that when people are more aware and better understand the problem of chronic undernutrition, they are more likely to be motivated and take action. Therefore, people working in different types of community programs and in different sectors may play a role and contribute to the improvement of the situation if they have an increased awareness and understanding of the problem. To achieve this, providing training and resources could be helpful. Since the workshop, numerous trainings have been carried out on topics</p>

	discussed during the workshop and with participants directly attributing them to the workshop. Having materials produced and/or available on different topics relevant for nutrition would help optimize the quality of the information shared during those trainings. Providing appropriate tools (ex.: training modules and advocacy materials) could also help to ensure that the correct and most optimal information in nutrition is disseminated.
4. Develop and/or provide resources on different issues regarding community interventions to people directly involved in community projects.	At various occasions, participants expressed their desire of receiving detailed guidelines on different issues regarding community interventions and the implementation of the PAMRDC. As examples, they wanted further guidance on “how to” realize the following: How to engage and involve communities? How to motivate community volunteers/agents? How to improve the training of volunteers and staff? How to reach more people with interventions to improve nutrition? How to improve coordination? How to increase the sustainability of interventions? Additionally, not only did participants want more guidance regarding community projects in general, but they also wanted further information on specific projects. The online surveys indicated that projects involving food demonstrations and the promotion of the orange-flesh sweet potato (OFSP) were very popular among participants: many wanted further information to develop similar initiatives.
5. Intensify advocacy for increasing the length of maternity leave.	Several times during the workshop, participants emphasized the importance of increasing the length of maternity leave. Indeed, a maternity leave provides mothers and families with means to comply with breastfeeding recommendations (including exclusive breastfeeding until 6 months of age), which is of critical importance in combating undernutrition. To advance on this issue, efforts are needed by a multitude of stakeholders. Intensifying the advocacy may help to move forward and provide an environment in which mothers can increase their compliance with a critical recommendation for child nutrition and survival.
6. Considerations about funding: increase flexibility whenever possible and match/refer donors to provinces.	Workshop participants have shared several challenges regarding funding. Several participants referred to some challenges related to the typical process from grant writing to program implementation. When proposals are written, a package of interventions is often proposed without much consultation with the communities because of short delay. If the proposal is successful and actors come back to the communities 6 month later, sometimes implementers cannot modify the package proposed, leading to the implementation of programs not aligned with community interests. Thus, an optimal practice was when donors offered a certain flexibility in funding. Some provinces also expressed the difficulty in attracting donors to work in their areas due to limited contact.
7. Find a balance between providing guidance from the central level and leaving freedom to provinces (or to implementers).	An important challenge mentioned was “how much should the central level do/decide, and how much should be left to the provinces to decide about different issues?” Many workshop participants commented post-workshop that they would like more guidance from the central level regarding the implementation of the PAMRDC and community interventions. This brings a risk of slowing down work in the provinces during the time that guidelines are produced at the central level. Also, people at the central level may not be knowledgeable about the contexts of each province. However, participants’ comments suggest that the central level could develop tools to be adapted by people at the provincial level. Regular communication

	between people at different levels are also important to get feedback on the guidelines and tools developed and continue improving them.
8. Consider the increasing problems of overnutrition and non-communicable diseases during program design.	The problem of chronic undernutrition is of major importance and was the focus of the workshop. Although the problems of overnutrition and non-communicable diseases were not discussed in the workshop, several practitioners affirmed having seen this increasing problem in their area, where they also had many people undernourished. Although those problems may seem as opposing, there is a linkage between them. It is important to stay alert and ensure that interventions are adapted to the local contexts.

Increased awareness gained from personal engagement

This chapter also presented another level of insights: the present content of this dissertation was influenced by four turning points related to my personal engagement in this context. A first turning point was in the early analytical phase when I thought the essence of my research was in the coordination process; then, I became aware it was not about coordination but rather about operationalization. A second turning point was when I realized how much insights I was gaining from examining the workshop through different lenses, but especially using complexity concepts as it was easier to make sense of the complexity. A third turning point was late, in the third phase of the analytical process: it was a turning point I would call a tipping point, as it helped put together so many pieces of understanding I had accumulated and it changed the framing and tone of my dissertation. Once this tipping point was reached, by still embracing emergence, another tipping point arose when I realized that a feeling of illegitimacy I had experienced of using the “I” and having difficulty assuming that I was part of the story, in a context of research, but it was so closely related to a major emergent pattern in this dissertation. Feeling illegitimate was impeding me to move forward with the analysis, bringing a certain analytical block. Legitimacy was key in the strategies used in Mozambique to make progress with the PAMRDC. Legitimacy brought momentum to pass to a deeper level. Engaging myself incrementally allowed me to gain legitimacy (momentum) and see the emergent findings patterns.

Engaging different actors through tactics and strategies allowed gaining legitimacy (momentum), leading to meaningful outcomes. The next chapter further describes the emerging patterns.

Finally, in the field of nutrition, we tend to focus primarily on the technical content and often neglect various other dimensions to persuade, meet our interests and achieve broader goal. Developing those skills appear critical because even if the most cost-effective interventions are available to address undernutrition, we are not likely to achieve progress if solely trying to convince others on the basis of that evidence-based.

Now, we are moving to a broader process, that is, the nutrition policy process related to the PAMRDC; it was the most difficult process to understand as we were trying to operationalize this multisectoral action plan and chapter 4 begins to shed light on this challenge.

Appendix A: Workshop Concept Note

“Reflecting on the Implementation of Community Interventions to Improve Nutrition in Mozambique”

BACKGROUND

In Mozambique, 44% of children under five years of age are chronically undernourished and more than 35% of the population lives in a situation of food insecurity. A multitude of interventions in nutrition, health and agriculture are needed in order to address the multifaceted causes of those problems. In addition, targeting mothers and children is of the utmost importance to have a real impact.

Several national strategies are allowing for the mobilization of a large number of stakeholders from different sectors to take action and address the current situation regarding nutrition and food security. Those strategies include the Food and Nutrition Security Strategy (ESAN II), the African Comprehensive Plan for Agriculture Development, the Strategic Plan for the Development of the Agriculture Sector, the Strategic Plan for the Health Sector (PESS), and the Multisectoral Action Plan for the Reduction of Chronic Undernutrition (PAMRDC). All those strategies aim to address some of the causes of undernutrition and food insecurity.

The PAMRDC was approved by the Council of Ministers in September 2010 and aims to accelerate the reduction of the high rates of chronic undernutrition countrywide. This plan recognizes that the attainment of its objectives depends of the implementation of other actions described in the strategies mentioned above, but also of other governmental plans such as the Action Plan for the Reduction of Poverty and the Integrated Plan for the Attainment of the Millennium Development Goals 4 & 5. The PAMRDC, as well as the other strategies, recognize the critical need for high-quality implementation of effective interventions delivered through community-based actions in order to reach high coverage (> 80% of the target group). Only such achievement will manifest in a strong and direct impact on people's health.

Over the years, the different sectors of the government, including the health sector, and non-governmental organizations have developed an extensive and rich body of experiences in the course of the implementation of community interventions and programs. The sharing of these experiences between the different actors is still limited. It is crucial to benefit from them; however, tremendous challenges remain. Identifying them and their effects on the delivery of programs at the community level is the first step.

In such context, the Department of Nutrition/Ministry of Health is organizing a workshop in order to support implementers in their various endeavors to foster greater dialogue nationally between implementers, technical partners, representatives of the Government and donors. The aim is to contribute to the improvement of the implementation of community programs with a focus on the ones in the areas of health, nutrition and agriculture, that contribute or can contribute to the reduction of undernutrition.

While this endeavor may appear easy and simple, it is exactly the opposite. Since each institution/organization uses its own methodology, targets various groups, and addresses the diverse causes of undernutrition and food insecurity, there is not a simple or generic approach or solution that can respond to this diversity. Therefore, the Department of Nutrition has identified

several transversal topics to begin productive exchanges between people working in agriculture, nutrition and health.

OVERALL GOAL

To determine optimal approaches in community interventions in order to optimize program implementation and impact on maternal and child nutrition.

SPECIFIC OBJECTIVES

1. To identify and discuss the best practices & innovations and challenges & constraints/barriers regarding the implementation of community interventions with a potential to improve nutrition.
2. To facilitate cross-learning and to foster collaboration between stakeholders who have important roles at different levels in the implementation of community interventions.
3. To collect narratives from implementers regarding their most significant challenges, constraints and most efficient work practices to resolve them (best practices and innovations). This information will serve as the basis to develop a document that will increase awareness of the identified challenges and constraints, and provide advocacy in view of solving them.
4. To share ongoing developments regarding national strategies with non-governmental organizations and other relevant stakeholders.
5. To develop and agree on incremental steps to improve the implementation of community interventions for improved nutrition, per region.

Annex I presents the definitions of “challenges”, “barriers/constraints”, “best practices” and “innovations” in the context of this workshop. Examples of each of those are presented and they come from various stakeholders consulted during the planning process for the development of this workshop.

EXPECTED WORKSHOP OUTCOMES

The workshop is expected to favor the building of relationships and the improvement of interactions between government representatives and development partners. All the discussions and activities of this workshop will allow the Department of Nutrition to produce a document describing the best practices in regards to several aspects of the implementation of community programs. These guidelines will be shared with the people from the government in all the provinces, the development partners and the civic society. These guidelines will also help to develop a Project Appraisal Document, which main focus will be the improvement of community nutrition interventions.

TIME FRAME

The Department of Nutrition is organizing the 3-day workshop for March 6th- 8th 2012.

WORKSHOP DESIGN

Approach

The workshop will last three days and as opposed to conventional workshops aiming to discuss only the “what” of interventions and designed as a one-way information flow (from presenter to

participants), this workshop will also be about the “how” of interventions and will be highly interactive with a two-way information flow.

Workshop participants will be made up of individuals who are directly involved at various levels and capacities in the chain of activities necessary for the planning and implementation of community programs. They will work in the areas of health, nutrition and agriculture. More specifically, for each of the 11 provinces, the workshop participants will include four representatives of the Government, namely the Chief-Doctor and the Provincial Chief of Nutrition (Provincial Directorate of Health); the focal point of SETSAN and the Provincial Chief of Extension Services (SPER) (Provincial Directorate of Agriculture). Workshop participants will also include a total of four people from two NGOs in each province, for example, the Nutrition Advisor and the Agriculture Advisor working in one program of a selected NGO. In the invitation letter to the organizations, those positions will be proposed. Additional participants will include representatives of relevant Ministries and Development Partners.

The workshop’s format has been kept simple and special attention has been given to ensure optimal exchanges between different groups of participants. The intent is to maximize the opportunities for inter-sectorial communication, reflection and problem-solving. The format for most sessions will entail a large group presentation, a case study and a small group discussion. An initial group presentation to the large audience will communicate important concepts, tools, guiding principles and/or considerations on the selected topics about programs delivered in communities. A subsequent short case-study will be presented for the audience to inform them of the actual challenges faced by implementers and some solutions that have been developed to address those challenges. Afterwards, small group discussions will allow for identifying additional challenges & constraints and discussing more solutions, practices and innovations regarding the selected topic. Sometimes, the groups will come back in plenary to share more about their discussions. It is hoped that this format will provide a favorable environment to reflect, learn and share.

Additional people involved in this workshop will have the following duties:

- Two professional facilitators will be in charge of facilitating the whole workshop;
- Students from the Course of *Licenciatura* in Nutrition and/or Agricultural Engineering will receive an appropriate training before the workshop and will act as note-takers to capture considerations, recommendations and conclusions during each of the workshop sessions. All group discussions will be recorded verbatim and transcribed. These transcripts will later be compiled and analyzed into a document dealing with the best practices & innovations and challenges & constraints on the main topics about community programs;
- Several individuals will have the role of “reporter” to capture important insights during the whole workshop. Those summaries will be shared at the beginning of the following day.

The programs and organizations that will present the case studies were selected through the following process: communication with partners and different sectors of the Government allowed for the development of a list of potential organizations and programs. Then, through a consultative process, program managers were contacted to better understand their programs and

seek which topic they could contribute to the most. Afterwards, a pre-selection was done in order to represent a great diversity according to the following criteria:

- types of programs and interventions;
- program size;
- new vs. well-established program;
- innovation;
- specialized vs. comprehensive;
- Government vs. NGOs;
- methodology; and
- donor.

A preference was given to programs perceived as very successful and when people manifest interest and availability for participation.

A feature of the workshop is the involvement of journalists in activities for the workshop planning. This will help to increase the understanding of nutrition issues by some journalists so that they will convey accurate information in the local media. It will also help to ensure good visibility of the workshop.

Workshop Topics

The agenda of the workshop is presented in **Annex II**. Each day will feature a different theme: 1) the context and our interventions; 2) the implementation; 3) the way forward. For each of those themes, the topics to be dealt with during the course of the workshop are transversal topics specifically chosen to allow implementers from diverse areas to have a common and productive dialogue. For each of those topics, the presentations and group activities will allow for the discussion of the best practices & innovations and challenges & constraints. Those topics are:

- 1) Mobilizing and engaging communities
- 2) Integrating interventions in agriculture, nutrition and health
- 3) Implementing large scale programs
- 4) Developing the capacity of human resources
- 5) Implementing social and behavior change communication strategy
- 6) Monitoring and evaluating program and optimizing data use

A description of the different sessions, main objectives and core information is presented below. A stakeholder analysis to better define the types of participants, their roles and responsibilities in terms of planning/implementation is being undertaken and will help to tailor the sessions for the different participants.

By the end of the workshop, the participants will be able to ...

- Explain the current situation in Mozambique regarding mother and child nutrition and why it is important to target those groups and to involve the agriculture, health and nutrition sectors;
- Describe several pathways through which agriculture can impact nutrition and health and vice-versa and to evaluate how their program can influence nutrition;
- Enumerate diverse community interventions, other than their program that can improve the nutrition of both mothers and children;
- Understand guiding principles when working with communities and evaluate the strengths and weaknesses of their program regarding those principles;

- Identify challenges and constraints/barriers of community program implementation regarding several issues (topics 1 through 6) and propose ways to address them;
- Reflect on their work and share innovations with others;
- Formulate proposals for concrete actions to improve program implementation and ensure the improvement of the health status and nutrition of populations.
- Understand that nutrition is much more than food intake and that multiple interventions are needed to address the diverse causes of undernutrition.

DAY 1: The Context and Our Interventions

The first day will begin by depicting the broader picture and the linkages between agriculture, nutrition and health. The presentations will allow for the fostering of a common understanding of the context, and highlight what is at stake and the need to join forces between the different sectors, organizations and levels represented at the workshop. Sessions and activities were developed to create a climate of trust and provide a safe space where participants can share about the different topics. Participants will be encouraged to speak up about the best and the worst of implementing programs, not in a form of complaint but to foster a productive dialogue. This day will set the stage for the rest of the workshop.

Opening Session

The workshop facilitators will welcome participants, and present the overall goal, objectives and programme of the workshop. Participants will be sitting by provinces, and they will be asked briefly to introduce themselves and share expectations. This session will level expectations and ensure that participants understand what the workshop is about, and what it is not about. This will also help in setting the stage for the small group discussions and activities and to ensure participants take an active role.

Video Presentation

The objective of this video is to introduce the major problem of chronic undernutrition in Mozambique and the interventions that are critical to improve the situation. The video will also be presented on the third day when additional participants will join to learn about the major outcomes of the workshop.

The Current Context in Mozambique

The objective of this session is to present relevant statistics and figures in agriculture, health and nutrition in order to depict the big picture to participants. The main causes of chronic child undernutrition, which is the major nutrition problem in Mozambique, will be presented. Additionally, the national strategies that are addressing undernutrition, hunger and food insecurity will be briefly mentioned.

TOPIC 1: Integrating Interventions in Agriculture, Nutrition and Health

The session will begin with a large group presentation on the linkages between agriculture, nutrition and health. The objective of this session is to enhance the participants' understanding of the different linkages between agriculture, health and nutrition so they can critically assess how their programs might affect the nutrition of children and mothers and how programs can be strengthened to address child undernutrition. This session will show the bi-directionality of those linkages: how programs in agriculture can impact health and nutrition positively, but also negatively and vice-versa. The linkages will be presented in a dynamic and visual way allowing

participants to easily situate where their work fits into those linkages. Afterwards, the session will feature case studies in which organizations have implemented successful community programs in which interventions in health, nutrition and agriculture have been integrated to increase the potential of improving nutrition outcomes. Examining how they integrate those interventions will provide examples of how integration is done as well as some challenges & barriers.

TOPIC 2: Mobilizing and Engaging Communities

The objective of this session is to present and examine guiding principles for community mobilization and engagement at different stages of a program. The case studies that will be presented are programs that use effective participatory approaches for community mobilization and engagement. In the small group discussions, participants will be asked to elaborate on “how” their program works regarding those principles, the challenges they experience and “how” they deal with them. An important lesson to share with workshop participants is that although they may not work with other organizations, they often target the same communities. Therefore, it is important to, at a minimum, allow for collaboration and coordination to foster synergies between their interventions. The importance of sustainability will also be highlighted.

TOPIC 3: Implementing Large Scale Programs

The objective of this session is to discuss special considerations to ensure program quality when implementing large scale programs. Large scale programs are extremely important to reach the largest number of beneficiaries, but additional challenges and constraints are experienced due to their size. The case studies presented will be the two national programs using community workers: 1) the basic health agent (*Agentes Polivalentes Elementares*) to deliver health interventions and 2) the agriculture extensions (*Extensionistas de Agricultura*) to deliver agriculture interventions. For the latter program, the activities developed in the Province of Tete will be presented.

Kiosks, Cocktail & Snacks

The kiosks will allow for the sharing of three types of information. First, additional community programs with great potential to improve nutrition will be showcased. Second, national strategies relevant to the workshop topics will also be presented. Third, successful practices and information, education and communication materials will be shared. Information will be shared through pamphlets, posters and videos. The stands of the kiosks will be kept open for all 3 days so people can read and refer to them in-between sessions. In order to encourage having great kiosks and participation in this session, a voting box will be put in place and the best kiosk will receive a prize.

DAY 2: The Implementation

The second day will explicitly focus on important components and factors that need to be optimized in order to improve not only program design, but also the implementation. The following quotes illustrate well the importance of looking at both - the interventions and the implementation, justifying that this workshop focuses on both aspects:

“Ineffective programs can be implemented well. Effective programs can be implemented poorly. Neither one is desirable. Desirable outcomes are achieved only when effective programs are implemented well.”¹

“The challenges and complexities of implementation far outweigh the efforts of developing the practices and programs themselves.”¹

“Implementation is synonymous with coordinated change at system, organization, program, and practice level.”¹⁴

Therefore, this workshop will help in identifying the best practices & innovations and challenges & constraints/barriers regarding different components of program implementation.

Synthesis of the Previous Day

A brief summary of key points from the previous day will be presented at the beginning of the second day. The workshop facilitators will also ask volunteers to comment on the last activity of the previous day, the kiosks.

TOPIC 4: Developing the Capacity of Human Resources

The session will begin with a brief presentation with the objective of defining program implementation and highlight the main components, which are related to staff – human resources – without which implementation would not be possible. This session will highlight the importance of human resources for program implementation and discuss strategies to better support their work. A major topic regarding human resources is training. What is needed to increase the training fidelity? What are the best practices for training? What are some challenges and how do people address those? Several organizations use the coaching and/or supervision of new staff/volunteers to increase quality of the interventions and the adoption of new practices. How are those strategies undertaken and what are the effects? Additionally, several practical lessons learned regarding training in the area of nutrition will be presented.

TOPIC 5: Implementing Social and Behavior Change Communication Strategy (Program Beneficiaries vs. Staff and Volunteers)

The objective of this session is to train participants on the basics for the implementation of social and behavior change communication strategy (SBCC) for improved nutrition. As people may have different levels of understanding, the presentation will begin by referring to several tools and approaches. The session will discuss as much SBCC for program beneficiaries as SBCC for staff and volunteers. Case studies will present best practices & innovation and challenges & constraints regarding SBCC in community programs. Practical recommendations from a comprehensive assessment on SBCC in several USAID programs undertaken by FANTA-2 at the end of 2011 will be presented.

TOPIC 6: Assessing Programs and Optimizing Data Use (Monitoring & Evaluation)

The objective of this session is to promote a better utilization of data. Considering the diversity of programs that will be represented at the workshop, this session will not go into specific details of monitoring and evaluation. The discussion will rather be related to the following aspects: How data can be used to stimulate and encourage community work? How to ensure that data is fed into the communities? How organizations can share their data between themselves, and with government officials? How to balance the need for monitoring and evaluation with the capacity of staff at the different levels? A case study will be presented to illustrate major challenges.

¹⁴ Fixsen DL, Naoom SF, Blasé KA, Friedman RM & F Wallace (2005). *Implementation Research: A Synthesis of the Literature*. University of South Florida.

Additionally, a small exercise will allow participants to reflect and discuss on specific issues regarding monitoring and evaluation.

Diversity of Community Programs

The objective of this session is to present programs that bring additional insights regarding the different topics that were covered in the previous sessions. The first case study will share the scaling up process of a program that became larger to increase its coverage. The second case study will present how to mobilize and engage communities in an urban setting. The third case study will present a program in which interventions in health, nutrition and agriculture have been integrated. Following the case studies, participants will break into small groups by province to further discuss one of the six topics covered.

DAY 3: The Way Forward

The third day will provide an opportunity to reflect more in-depth on the way the participants could take up what was discussed in the previous sessions especially regarding the main challenges and constraints and discuss how the difficulties could be improved. The discussion will focus on small changes people can make that are well within their power and resources in order to be realistic of what is possible; thus, avoiding big action plans that never get implemented. The small groups will be based on provinces.

Addressing our Main Challenges with Incremental Actions

The objective of this session is to highlight the main categories of challenges and to determine concrete and incremental actions to be done by people from all the provinces and the central level. A first presentation will be done to the large group based on the presentations and discussions of the first two days of the workshop. Second, the small groups will work on concrete actions they can do. Those can be related to the following topics: What could be some innovative ways in which implementers are able to better collaborate and coordinate with others in the field? How could communication between people from Government and NGOs be improved? How could we optimize program sustainability through community mobilization and engagement?

Sharing the Next Steps

The objective of this session is to share with the large audience the actions that each province developed to address their main challenges. The two workshop facilitators will facilitate this session. In the first part of the session, one representative of each province will highlight the most important action and briefly elaborate on how this could play out. The outcomes of this session will be extremely important and will constitute the focus of the key points presentation during the last session.

Latest Developments on Infant and Young Child Feeding (IYCF)

In the last 2 years, strategies and programs of major importance for the area of community nutrition have been developed. In this session, some of those strategies will be presented.

Key Points of the Workshop and Closing Discourse

The objective of this presentation is to summarize the main workshop outcomes and close the workshop. A synthesis of the most significant workshop outcomes will be presented. First, the main challenges and constraints regarding several aspects of the implementation of community interventions to improve nutrition will be presented. Second, the main actions to improve those

difficulties will be presented. The latter will be the main focus of the presentation. High-level individuals will be invited to attend this session. His Excellency the Prime Minister will be a special guest and give the closing discourse.

EXAMPLES: Challenges & Barriers/Constraints and Best Practices & Innovations

In the context of this workshop, it is useful to define several relevant terms: challenges, barriers/constraints, best practices and innovations. What are the challenges and barriers that need to be addressed in order to improve interventions and their impact? What are some of the best practices and innovations when intervening with communities and/or to address existing barriers and constraints? Several examples are presented below, taken from people consulted during the planning process of the workshop.

Challenge: Difficulties that are experienced by people at different levels during the various steps and activities necessary for the implementation of a program.

Barrier/constraint: Structure that blocks or impedes something / Obstacles.

Best practice The best practice is a method or technique that has consistently shown results superior than those achieved with other means, and that is used as a benchmark.

Innovation: Innovation refers to the creation of better or more effective products, processes, or ideas that signify a substantial positive change.

Challenge

Negotiating community priorities and organization priorities: Organizations that work with communities use different methodologies and techniques for mobilizing community members. The majority of them, though, are mobilizing communities around a specific problem, the problem that the organization is trying to address with its program (i.e. malaria, child undernutrition, water scarcity). What happens when an organization tries to mobilize the community around a specific problem, but the community does not see it as a problem or a priority? How do we negotiate those differences in priorities? [NGO, central level] *Hearing more on how organizations deal with this challenge can help us in identifying the best innovations and practices to optimize the programs and their outcomes.*

Difficulties in coordination between DPS and partners: During the Maternal and Child Health (MCH) week conference in October 2011, someone from the DPS of Niassa mentioned how challenging it can be to coordinate with different partners; a sentiment echoed by other provinces. To address this problem, the director of the DPS of Niassa invited an important donor to a meeting with the DPS, which allowed for the clarification of many misunderstandings. They decided to continue this initiative and meet every 6 months to discuss the activities implemented in their region by this specific donor. [DPS, Niassa] *At this MCH meeting, the problem of coordination with partners was mentioned as present and very important by most of the DPSs. It is not uncommon to have NGOs implementing programs without having much interaction with government officials. There may be many reasons for this situation other than unwillingness to collaborate. This is one example of why it is important to involve people from the government and partner organizations in the present workshop to discuss the challenges, the reasons for the limited collaboration and coordination in the field, and how to move forward.*

Constraint/barrier

Use of different mechanisms of incentives for staff: In the province of Tete, during a visit by a donor, it was observed that several organizations had problems retaining their staff. One reason

identified was the use of different per diems by different organizations. Staff would move to organizations that had a higher per diem. [Donor, Tete] *By hearing from implementers the problems that this creates in the field for them, the workshop could not only help identify challenges and constraints, but also to formulate solutions to those problems.*

Innovation

Joint work between *Agentes Polivalentes Elementares* (APEs) and Community Health Workers for Growth Monitoring and Promotion and referral to health services: The Ministry of Health uses *Agentes Polivalentes Elementares* (APEs) to undertake community-based activities to improve the health of community members. This program started in the 1980s, but has recently undergone a revitalization phase. Higher criteria for becoming an APE has been added in order to increase the quality of the interventions. As a result of requesting higher education levels and of the 4-month intensive training, the majority of the candidates eligible for APEs are men. When considering the importance of Infant and Young Child Feeding (IYCF) practices for improving the nutritional status of children and decreasing infant mortality, the fact that APE are primarily male can limit the activities they undertake about IYCF and care practices. An international organization has attempted to address this situation, fostering collaboration between community health workers and the APEs. For instance, community health workers working with mothers' groups regularly take anthropometric measurements of children. When finding cases of acute undernutrition, they can only tell mothers to go to the health center. On the other hand, the APE can refer children to health centers using a referral sheet for different health conditions including undernutrition. Thus, in several districts of Nampula, the APEs and Community Health Workers undertake joint activities. [International NGO, Nampula] *Examining further the way their collaboration has started and is taking place is relevant to inspiring other programs to undertake similar partnerships and share with them concretely how this partnership is occurring.*

Use of volunteers/activists/peer-educators to follow-up patients in communities: A health center in Maputo relies on a structure involving volunteers to reach out to community members. These volunteers are called peer-educators and work at the health center, as well as directly in the communities. Each peer-educator sees around 8 patients per month. Most of the patients they see are those who are non-compliant and refuse to take medications. The volunteers go directly to the patient's home and attempt to convince them. The peer-educators receive training on different topics once a month. Each of them works once a week, and they work in different units. Approximately 35-40 volunteers are undertaking activities to support the work of health professionals. [Health Center, Maputo] *A director from an international organization mentioned that they have tried to work with a DPS to undertake similar activities. However, it did not concretize, as this DPS did not want to use health volunteers. Considering that health professionals working in health centers are overloaded, and considering the positive experiences of several health centers relying on the work of volunteers, sharing experience on the use of peer-educators would help in reaching more people, thus, increasing coverage of several interventions. Several technical development partners have presented this initiative as an exemplary model. Therefore, further examination of the use and link between health services and volunteers would be highly relevant in the context of this workshop.*

Best practice

The support of certain groups has been shown as very influential for the behavior change at the community level. For example, considering the influence that grandmothers and mothers-in law have on the decisions on IYCF practices and care, involving them in nutrition education

programs in which target group is children under 2 years of age is critical for behavior change. Thus, organizations have included components in their programs to develop support groups with grandmothers and mothers-in-law. [International NGO, Nampula] *Those support groups are considered to be one best practice for behavior change. Thus, examining how those are incorporated into different programs is relevant to improve interventions at the community level.*

Appendix B: Online survey

The Implementation of Community Interventions to Improve Nutrition in Mozambique: Using a National Workshop to Foster Effective Practice

Dear participants, additional information on the study follows.

Declaration of the Investigators: You are being asked to take part in a research project with the objective of contributing to the implementation of community interventions to improve nutrition in Mozambique. This research project is being carried out by the Department of Nutrition at the Ministry of Health in Mozambique and Cornell University in the United States. We are inviting people who have participated in the national workshop on community interventions that was held in March 6, 7, and 8 in 2012 in Maputo City.

Objectives: One objective of this study – called “*The Implementation of Community Interventions to Improve Nutrition in Mozambique: Using a National Workshop to Foster Effective Practice*” is to assess the potential outcomes of such workshop.

Risks and benefits: We do not anticipate any risks involved with you participating in this study other than those encountered in day-to-day life. There are no benefits to you personally. Information from this study may be of benefit to you or others, now or in the future, for improving implementation of community programs in Mozambique or elsewhere. There is no compensation for participating, other than receiving a summary of the study’s findings. All your responses will be treated confidentially and we can ensure that any declaration or comment you make will not be attributed to you as individual. Taking part in this study is completely voluntary.

Additional information: The researcher in this study is Isabelle Michaud-Létourneau. If you have further questions, you may reach her at im225@cornell.edu. Her supervisor is Professor David Pelletier at Cornell University. You can reach Prof. Pelletier at dlp5@cornell.edu or 1-607-255-1086 (USA). If you have any questions or concerns regarding your rights as a subject in this study, you may contact Cornell University’s Institutional Review Board at 1-607-255-5138 or access their website at <http://www.irb.cornell.edu>. You may also report concerns or complaints anonymously through [Ethicspoint](#) or by calling toll free (for calls placed in the United States) at 1-866-293-3077. Ethicspoint is an independent organization that serves as a liaison between the University and the person bringing the complaint so that anonymity can be ensured.

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BEGINNING OF THE SURVEY

1. In what kind of organization do you work?
 - A) Government institutions
 - B) Non-governmental organization (national and international)
 - C) United Nations Agencies
 - D) Donors
 - E) Academic Institutions
 - F) Others (Please, specify): _____
2. In this organization, what administration level do you work?
 - A) Central
 - B) Provincial
 - C) Distrital
 - D) Community
 - E) Others (Please, specify): _____
3. If this workshop is successful, what changes would you expect to see one year from now in the domain where you work?
4. What were the strongest aspects of the workshop?
5. What were the weakest aspects of the workshop?
6. How could the workshop have been improved?
7. Has something happened as a result of your participation in the workshop (in your work, in your province, ...)? If so, could you explain briefly?
8. Following the workshop, are there ideas or actions you intend to do or implement that you can attribute to your participation in the workshop?
9. What do you think were the main achievements of the workshop (if any)?
10. Please, enter your name, email and phone number if you would like to be included in the raffle for the digital camera (that will occur in September 2012).

Appendix C: End-of-Workshop Survey¹⁵ Results

1 = strongly disagree, 2 = disagree, 3 = disagree a little, 4 = neither agree nor disagree, 5 = agree a little, 6 = agree and 7 = strongly agree.

Question	Median	SD
1. I believe all the participants had the same opportunity to intervene (there was no domination of the conversation by a small number of people or any single institution).	5.6	1.6
2. I believe the recommendations that arose from this workshop will be implemented.	5.3	1.1
3. I believe the institutions at the central and provincial levels involved in implementing these recommendations have the necessary capacity to do so.	5.4	1.4
4. I believe the purpose of this workshop has been clear to the participants.	6.3	1.1
5. I believe the nature and scope of the task was well defined or became well defined as the workshop continued (I understood what was required from me).	5.6	1.2
6. I believe there was sufficient time to accomplish the objectives of the workshop.	4.3	1.8
7. I believe I had sufficient knowledge to contribute to the workshop discussions and decision-making.	5.7	1.2
8. I believe my opinions and contributions were valued.	5.8	1.1
9. I believe the structure and conduct of this workshop resulted in recommendations that are clear and possible to implement.	5.8	1.1
10. I believe the workshop fostered new and innovative ideas.	6.2	1.0
11. I believe information was generated that improved our understanding of how to ensure effective intervention and high-quality implementation.	6.2	0.9
12. I believe this workshop provided assistance to move forward with the implementation of interventions within the Multisectoral Action Plan for the Reduction of Chronic Undernutrition.	6.1	0.8
13. I believe the topics of the workshop were appropriate to my area of work/interests.	6.2	1.1
14. I have found that most case studies provided additional insights into the topics selected.	5.7	0.9
15. I believe I gained useful knowledge I feel I can apply to my work.	6.3	0.7
16. I believe communication among the participating parties will likely be better in the future as a result of this workshop.	6.1	0.9
17. I believe cooperation among the participating actors and sectors, to improve nutrition in my province, will likely improve in the future as a result of this workshop.	6.2	1.2
18. I believe the exercises conducted in this workshop would be useful to replicate at the provincial and district levels.	6.3	1.1
19. Overall, I believe this workshop was a worthwhile investment of time, effort and money to strengthen the implementation of community interventions.	6.5	1.0
20. Overall, I believe this workshop was a worthwhile investment of time, effort and money to strengthen our capacities to plan and improve nutrition and health interventions.	6.4	1.1

¹⁵ This survey was slightly adapted from one used to assess two workshops with the Program Assessment Guide in Bolivia and Kyrgyzstan, carried out by David Pelletier, Allison Corsi, Lesli Hoey from Cornell University in 2009 and 2010.

Appendix D: Online Surveys #1 (1 Month Post-Workshop) and #2 (7 Months Post-Workshop)

This survey was sent to participants one month post-workshop.

1. In what kind of organization do you work?
 - a. Government institutions
 - b. Non-governmental organization (national and international)
 - c. United Nations Agencies
 - d. Donors
 - e. Academic Institutions
 - f. Others (Please, specify): _____
 2. In this organization, what administration level do you work?
 - a. Central
 - b. Provincial
 - c. Distrital
 - d. Community
 - e. Others (Please, specify): _____
 3. If this workshop is successful, what changes would you expect to see one year from now in the domain where you work?
 4. What were the strongest aspects of the workshop?
 5. What were the weakest aspects of the workshop?
 6. How could the workshop have been improved?
 7. Has something happened as a result of your participation in the workshop (in your work, in your province, perceptions of some issues ...)? If so, could you explain briefly?
 8. Following the workshop, are there ideas or actions you intend to do or implement that you can attribute to your participation in the workshop?
 9. What do you think were the main achievements of the workshop (if any)?
-

This survey was sent to participants seven months post-workshop.

1. Idem to the previous survey
2. Idem to the previous survey
3. Has something happened as a result of your participation in the workshop (in your work, in your province, ...)? If so, could you provide a description to explain?
4. Since the workshop, are there ideas or actions you did or implemented that you can attribute to your participation in the workshop?
5. Could you share latest developments regarding the Multisectoral Action Plan for the Reduction of Chronic Undernutrition (PAMRDC) that you are aware in your region? [If possible, could you describe with enough details and mention the specific province that you are referring to or mention if it is at the central level].
6. Are there any other information, comments or ideas you would like to share on issues related to the workshop, community interventions and/or the PAMRDC?

CHAPTER 4: UNDERSTANDING THE NUTRITION POLICY PROCESS TO DEVELOP EFFECTIVE STRATEGIES FOR THE OPERATIONALIZATION OF THE PAMRDC

INTRODUCTION

“No other plan in nutrition had ever attracted that amount of efforts for its implementation.”
(Senior nutritionist, 04/11/2012)

This statement made by a stakeholder with extensive experience in this context expresses the importance attached to the PAMRDC and the efforts to make multisectoral nutrition work successful in Mozambique. Examining this experience more closely is valuable to increase knowledge on what factors have contributed to reach that level of attention, how those factors have played out, and the role of strategic system thinking in further advancing this agenda within the national system. The assumption underlying this chapter is:

If we better understand how precursors and more recent factors contributed to advance various functions of the nutrition policy process, this knowledge can inform the design of more effective strategies and tactics in the future, further developing the understanding and practice of strategic capacity.

A parallel can be made between the national workshop examined in the earlier chapter and the dynamics of operationalizing multisectoral nutrition in the national system, which will be further illustrated. This chapter presents some influencing and contributing factors to multisectoral nutrition work in Mozambique in a dynamic manner through narratives from key stakeholders and related to several functions of the policy process.

Core elements of negotiation

During the analysis, an emergent finding was that despite that the work was not in a context of formal negotiation (with professional facilitator or negotiator), the core elements of a negotiation framework used by negotiation practitioners appeared to play a critical role. This awareness led to the assumption that considering more explicitly those elements important in

negotiation processes and how to influence them could be of great value to develop more effective strategies and create a favorable and enabling environment for multisectoral work.

The presence of those elements calls attention to the role and importance of particular decision points within the larger policy process, and that dialogue and deliberation that characterized negotiation processes represent smaller units and building blocks within a ‘hierarchy of processes,’ as included and represented in the framework for strategic system thinking (chapter 3). For this reason I have extended the analysis and interpretation presented in this chapter by explicitly relating the findings to the “ten-element negotiation framework” in which those ten elements are the following: 1) parties; 2) interests; 3) issues to be discussed; 4) options; 5) legitimacy; 6) relationship; 7) communication; 8) commitment; 9) alternatives; and 10) process. These represent an expanded set based on the 7-element framework introduced by a well-known negotiator, Roger Fischer [95]. The present chapter does not discuss this negotiation framework explicitly in detail; however, the findings presented in this chapter involve many of those elements.

OBJECTIVE AND SUB-QUESTIONS

The objective of this research component is to describe and reflect on the use of various strategies to advance different functions of the nutrition policy process related to the PAMRDC. *This is done by examining the different functions of the policy process through a comprehensive lens, while keeping in mind that those functions are interconnected and not mutually exclusive.* This objective is addressed through exploring several sub-questions related to functions of the policy process, as presented in **table 21**.

Table 21: Sub-questions regarding various functions of the nutrition policy process

Functions	Sub-questions
PLANNING	<ul style="list-style-type: none">• What are some precursors and contributing factors to the multisectoral nutrition work in Mozambique?• How have those contributed to the multisectoral nutrition work in Mozambique?• What are some contributions of the existence of the PAMRDC (as a strategy)?
AGENDA FORMATION	<ul style="list-style-type: none">• How can mid-level technical actors influence the political agenda through various strategies?• Can political commitment be developed through engaging several high-level actors?• What factors have triggered the reaching of political commitment toward the PAMRDC?
OPERATIONALIZATION¹⁶	<ul style="list-style-type: none">• How can different types of actors foster a system-wide commitment incrementally through various strategies?• How can the operationalization and the implementation of the PAMRDC be conceptualized?• What are some challenges and strategies regarding various issues involved in operationalization?• How did some efforts evolve and help move forward the PAMRDC (operationalization, coordination, implementation)?

METHODOLOGY

Multiple data were collected prospectively during my direct engagement with this community from February 2011 to July 2012 and while working directly in the MOH from September 2011 to May 2012 (a total of 15 months). Data were also collected retrospectively by interviewing key stakeholders in this context. The bulk of the data were collected for three purposes: to document various processes; to provide information for the development of different initiatives (to advance the operationalization process); and to assess several outcomes. **Table 22** presents a description of the data collection, sources and analysis carried out according to the different pieces of analysis done to address the overarching objective and sub-questions of this research component.

¹⁶ The operationalization is not an explicit function of the policy sciences; however, as it is implicitly included in some functions, it is presented as a function in this table.

Table 22: Description of data collection, sources and analysis for the sub-questions of this research component

Pieces of analysis	Data collection and sources	Data analysis
Chronology of events of precursors to multisectoral nutrition work AND Timeline of the development of the PAMRDC	<ul style="list-style-type: none"> - Data collected retrospectively - Semi-structured interviews: <i>In your opinion, what events, documents or others, were precursor to the current multisectoral work and PAMRDC in Mozambique?</i> - Documents: ESAN I, ESAN II, PAMRDC, PARPA I, PARPA II, A Strategic Plan for Nutrition in Mozambique, Food Security and Nutrition Information User Needs Assessment; Baseline Survey of Food Security and Nutrition in Mozambique, Landscape Analysis, etc. - Semi-structured interviews: <i>In your opinion, what events, documents or others, were precursor to the current multisectoral work and PAMRDC in Mozambique? What have been your involvement regarding the PAMRDC? Can you elaborate?</i> 	<ul style="list-style-type: none"> - Transcripts were coded with atlas.ti: - 1st cycle coding: structural coding - 2nd cycle coding: thematic coding, process coding - Reading of all the documents to corroborate certain facts mentioned by actors during semi-structured interviews - The events/documents/others directly attributable to the PAMRDC were included in the timeline because we could make the connection. - Iterative process, trying to clarify the factors and using various sources to validate the importance of those factors and highlight their contribution.
Engaging different types of actors	<ul style="list-style-type: none"> - Date collected prospectively during direct engagement (workplan, time sheet, invitation letters, electronic communications – sept 2011-May 2012) 	<ul style="list-style-type: none"> - More than 250 messages were re-read and 101 conversations were selected, printed, re-read, and summarized into a table in chronological order to reconstruct timeline. Other emails and documents were reviewed for triangulation.
Engaging high-level political actors	<ul style="list-style-type: none"> - Documents: presentations (e.g. presentations prepared for the Council of Ministers); emails; scans of formal letters - Semi-structured interviews: <i>What are your expectations regarding the SUN movement that Mozambique is part of? What are your expectations about the REACH process?</i> 	Process tracing (with the data in which I was not a participant)
Overall analysis	<ul style="list-style-type: none"> - All the documents above 	<p>Grounded theory approach</p> <ul style="list-style-type: none"> - 3rd cycle coding: process coding, etc... - 4th cycle - introspection – highly reflective process

Data sources included the following: notes from direct participation and observation; electronic communications; semi-structured interviews; informal interviews; written documents; agenda; timesheet; and notes from additional exchanges with actors involved during the analysis process. Several reflective documents were also written alongside the analysis process (e.g. document describing complexity dimensions, collection of memos). Process tracing [96] to interview particular groups of stakeholders who possess a specific contextual knowledge was also used; Tansey (2007) supported process tracing and made a case for non-probability sampling, referring to the argument that “case studies and within-case analysis are the methods best able to examine the operation of causal mechanisms in detail” [97] in [96]. Although I do not pretend that this dissertation exposes in detail causal mechanism, the use of various techniques including process tracing uncovered significant elements with potential to advance various functions of the policy process.

Managing this large and diverse body of qualitative data for this DE research project, in which research questions were emergent and not pre-determined, was a challenging endeavor. Several strategies were developed to deal with those various data systematically, depending on the data sources or analytic procedure, as detailed below. Triangulation using multiple data sources to support the different analysis was highly used whenever possible.

Semi-structured interviews

Data collection: Semi-structured interviews were carried out with 21 stakeholders highly involved with the PAMRDC and working at the central level. They answered the questions post Q sorting exercise. Those interviews proved to be rich because participants responded after having spent about 40 minutes sorting cards containing different statements regarding multiple aspects of the PAMRDC, which triggered many insights. The questions involved background on

the multisectoral work, coordination, achievement, global initiatives and expectations on next steps (further information in chapter 5). Some questions were asked systematically to the 21 stakeholders (questions on coordination) participating in the Q study, but others were used as a menu to draw from, depending on previous and current involvement of each stakeholder. Considering that I regularly worked with most of these actors and knew some of their previous and current engagement in this context, this knowledge allowed me to probe for specific information to get to a deeper level of insights. I have carried out the interviews in the preferred language of the interviewee. Twelve nutrition students in Mozambique transcribed verbatim the interviews in Portuguese. I transcribed the interviews carried out in French and English. After transcription, all recordings were listened to one more time with the transcripts to correct any error. All transcripts were kept in the original language and only translated to English during the analysis process for inclusion into this dissertation.

Data analysis: Regarding the precursors to the PAMRDC, a chronology of events was constructed based on data collected retrospectively during the semi-structured interviews with key stakeholders. A timeline of events regarding the development of the PAMRDC in Mozambique was also developed. The narratives of several senior stakeholders working in nutrition and agriculture, who had extensive experience in FSN in Mozambique, were key to identifying those precursors and assessing how they contributed to advancing the multisectoral nutrition work. Most of the documents they referred to were also read, thereby corroborating and providing additional information on several events.

Electronic communications

Data collection: Electronic communications provided an important source of data due to its extensive use in this policy community and its detailed content. In a systematic process,

electronic communications were searched primarily between April 2011 and June 2012 based on different issues, topics, and actions. Emails referring to a relevant topic related to the PAMRDC were put in a separate folder. A total of 101 conversations or lines of messages¹⁷ were extracted and kept. Those messages were printed and put in chronological order into a book.

Data analysis: The messages were re-read and a table was built including a summary of the content of the messages (main issues discussed, points considered important for the analysis, who was involved in those exchanges, others). During this process, at least 250 conversations were examined. Keywords were also used to search for certain emails on specific information. The summary table led to the construction of the table “*engaging high-level political actors*” and “*engaging different types of actors.*” During this process, memos were also written as part of the analytical process.

Personal notes

During the development of the actions in Mozambique, I took several types of notes. At the meetings, I always took notes in a notebook and filled a total of three large ones. Whenever possible, I also wrote electronic notes from some of those meetings and different kinds of insights, which led to a total of 101 pages, single-spaced. Considering the intensity of the work, there were several periods in which this activity was not possible and only paper notes were taken, which brought a challenge for data analysis. I also kept diaries to capture thoughts, ideas, insights and new awareness of connections and developed various synthesis documents, which led to some of the “pieces of analysis” presented in **table 22**. Considering the scope and complexity of the object under study and the many dimensions of the policy process involved, the conceptualization of the operationalization process became clearer in the latest phases of the

¹⁷ A line of messages refers to an electronic conversation including a first message that was sent with all the responses by different actors attached to that first message.

analytical process. It occurred once the dissertation writing was well underway and all the other chapters were written, as I was gaining a new awareness of patterns and relationships during months of intense immersion and revisions of the various data and the memos. Several elements emerged to develop the conceptualization of operationalization and implementation of the PAMRDC and insights regarding different functions of the policy process.

Documents

Over the course of my work at the MOH, a large volume of documents related to different PAMRDC activities were also collected. My work often involved commenting, correcting and writing some of these documents. Parts of many of those documents were re-read during the period of the analytical process of this DE research project; the most important ones are included in **table 22**. No systematic detailed analysis was done with those documents.

Data analysis: coding, memoing, and grounded theory

One of the main challenges was the large amount of data involved; it was impossible to scrutinize and analyze data with the same level of detail. Another challenge was that some data came from my own personal experiential learning [98] in this context, which I had not always written about; the following quotes from Dewey expressed important points related to his conception of experiential learning:

The experience has to be formulated in order to be communicated. To formulate requires getting outside of it, considering what points of contact it has with the life of another so that it may be got into such form that he can appreciate his meaning. [98] (p.6)

We thus reach a technical definition of education: It is that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience. [98] (p. 90)

Education may be conceived either retrospectively or prospectively. That is to say, it may be treated as process of accommodating the future to the past, or as utilization of the past for a resource in a developing future. [98] (p. 93)

Dewey highlights the importance of reflection and formulation of the learning in order to be more crystalized and usable in the future. The lessons and insights I gained from this direct experience emerged from different analytical processes, some of which occurred during the work and others after through the writing (including reconstruction) of many things that happened in Mozambique. I cannot emphasize enough the importance of trying to formulate learning during the experiential period despite challenges when playing the roles of a practitioner and researcher.

Parts of the analysis were based on a grounded theory approach in which analytical memo were written in relation to the various processes exposed in chapter 3. One of the features of this multi-embedded case study has been the opportunity to explore patterns in the data within the various sub-units. Such level of analysis was made possible in the latest analytical phase in which a major introspection began with full immersion in the data, re-reading the data, but also considering that an important source of those data came from my own experience in the context and not everything had been put on paper. The writing of some of the earlier pieces of analysis allowed for the development of the strategic system thinking framework, after which the degree of awareness intensified.

The analysis was carried out in a long-term iterative process, going back and forth between transcripts from interviews, emails, and other documents. The data from my personal notes along with the interviews were coded using various types of coding. Although the policy sciences was the main overarching framework to make sense of the different themes in the data, it is from using grounded theory that the main themes emerged and I realized that the major categories were a reflection of most functions of decision functions of the policy process.

Appendix F presents additional information on data analysis using techniques and procedures for developing grounded theory.

RESULTS: THE DECISION PROCESS

The results section present findings on several decision functions of the nutrition policy process regarding the PAMRDC. Throughout this section, the ten elements of the negotiation framework are discussed to highlight that even if we were not in a context of negotiation dealing with disagreements and conflicts, considering those elements can help create a favorable environment and more effective strategies. Typically, the first elements considered for any negotiation are the *parties* and *interests*. The review of selected literatures and application to the case of Mozambique (chapter 1) presented major actors in this context with potential interests for each type of actors. The connectivity and interconnectedness were also illustrated. Another element of the negotiation framework is the *issue to be discussed*, which helps shape the process by which those issues are discussed. An aspect that appears important in this case study was the framing of the issues.

Chapter 1 also introduced the notion of “common interest” and that the policy process involves that actors and groups negotiate to secure their common interest. Chapter 3 has introduced that negotiation to get the common interests could also be perceived at a higher hierarchical level by framing an agreement that embraces the commonalities. One example is when the national nutrition director presented the provincial priorities in front of an audience strategically selected to help moving the issue forward, which appeared to help the issue gain legitimacy, reaching a tipping point to spread actions within the national system. Actors have their own interests and when people are connected and interdependent, it leads to a favorable condition for reaching agreement among the parties¹⁸ or lead to high-quality outcomes. When an

¹⁸ The terms “parties” is used to refer to actors, groups or institutions in the negotiation world.

issue or a work is framed as the common interest, or building on commonalities, or as a common work, we are more likely to have people collaborate and get their commitment.

PLANNING (Intelligence)	<ul style="list-style-type: none"> - Process of gathering and analyzing information and giving it to relevant stakeholders. - Information is obtained on past and current trends and the conditions under which those took place. - Projection on future trends can also be done through the use of diverse tools. - This information is then used in decision-making.¹⁹
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The planning function of the policy process, as described above, involves examining past and present trends in order to plan and tailor actions for the future, based on an analysis of the context. Assessing past trends can be done through looking at events and factors that have contributed to the current multisectoral nutrition work in Mozambique. This is generally done through looking at data on the nutritional status, for example, and other relevant indicators. These data help stakeholders understand the context in order to determine the technical content of a policy, which is an essential work. However, only relying on information related to the situation of nutrition may not be sufficient to achieve progress. Through examining the precursors and factors that led to multisectoral nutrition work, we can also identify factors that triggered progress in some aspects of the policy process, in this case the planning function. **Table 23** presents a chronology of events identified as the main precursors and contributing factors to the current multisectoral nutrition work in Mozambique, followed by a brief illustration about the contribution of those events offered by major senior actors still highly involved in this context.

¹⁹ The term in parenthesis is the term used in the policy sciences framework and the description on the right comes from Clark (2002).

Table 23: Chronology of events that lead to multisectoral nutrition work in Mozambique

Year	Event	Description and Contribution
Since 1992	End of the 17 years civil war	- Beginning of a progressive shift in nutrition from responding to emergencies to an approach of development and planning due to an increased awareness that the situation in nutrition was precarious, showed by exercises of planning, situation analysis, and studies.
1992	International Conference on Nutrition	- Development of the 1 st strategy for FSN for this conference. This strategy was developed further for the World Food Summit.
1996	Participation to the World Food Summit in Roma	- An intersectorial analysis was carried out by a small group of committed actors to prepare documents on the situation of FSN in the country for participating in the summit; - Commitment of the Government of Mozambique to improve food security and nutrition due to its participation to the summit.
1997	Creation of an intersectorial group of food and nutrition security	- Technicians from various sectors carried out several activities to increase awareness on the importance of food security and nutrition, coordinated under the Ministry of Planning and Finance.
1997-98	1 st class of technicians in nutrition graduated	- The technicians began to carry out district profiles regarding the situation of FSN in each province, allowing drawing the picture of the whole country.
1997-98	1 st vulnerability assessment in the country	- A vulnerability assessment on the situation of FSN was carried out, which increased further the awareness of the problem.
December 1998	Approval of the Food and Nutrition Security Strategy (ESAN) Creation of SETSAN	- The Council of Ministers approved ESAN and indicated that the intersectorial group should be transformed into a technical secretariat, and moved from under the leadership of the Ministry of Planning and Finance to Ministry of Agriculture.
2001	Recommendations for the development of a strategic plan to reduce malnutrition	- Work (including 2 trips) done by Roger Shrimpton for HKI that led to the development of a document with recommendations for a plan: “ <i>A Strategic Plan for Nutrition in Mozambique</i> ” (Official document on Feb 2002).
December 2002	Intersectoral seminar	- The Nutrition Section (now the Department of Nutrition) of the MOH carried out a “PROFILES ²⁰ ” of Mozambique to quantify the impact of nutritional problems on human productivity, morbidity, mortality, fertility and intellectual development; - The use of this advocacy tool led to the development of the <i>Strategic Plan for Nutrition in Mozambique</i> (powerpoint)

²⁰ PROFILES is “a participatory advocacy process that builds upon a spreadsheet-based computer software program for quantifying the impacts and costs of diverse nutritional problems.” Burkhalter, B.R., et al., *PROFILES: a data-based approach to nutrition advocacy and policy development*. 1998.

Available at: <http://www.aednutritioncenter.org/strategies/policy-analysis-and-advocacy>

		presented at this seminar.
February 2004	1 st strategic plan to reduce malnutrition Final version of the document “ <i>A Strategic Plan for Nutrition in Mozambique.</i> ”	<ul style="list-style-type: none"> - The Department of Nutrition has done an actualization of the plan supported by Professor Helder Martins; - This plan clearly presents various prevalent nutritional problems and the economic losses for the society if not intervening to address the nutritional problems.

The early precursors mentioned by several senior actors involved in this context go back to the period of the end of the civil war in 1992, a period in which they saw a shift from emergency response to development, as explained by this participant:

“Many documents were done before this plan ... various things were done over the years and during a long time. When I started working, I was coming from an after-war period, so in this time, people probably didn’t have time to think ... as we have today because we had problems to resolve now, now, now. So in a population in district X that is dying, it was an emergency, so we had to respond. After the 90s, different exercises started: planning exercise, situation analysis, surveillance system ... The first studies showed that the situation was bad, it was not good.” (Ex-representative of government #1, 04/09/2012)

The various studies and carried out at that time shed light on the nutritional situation in the country, which led to an increase awareness of different problems. Another actor mentioned:

“Luckily in 92, after the situation with the Peace Agreement and everything, we were able to breathe a little bit and begin other interventions in the area of development, but for many years, we were left with the remainder of the emergency period.

(The World Food Summit arrived) at the right moment, to reflect on FSN and everything. It was also at the time when we started thinking that we needed human resources to implement our actions, so we thought: “ok, what are we going to do?” We are only a few, we quickly need human resources, who can be trained in a short time ... and we cannot wait after universities and trainings. We need to be practical in designing this course for technicians in nutrition; the department (of nutrition) designed it.” (Ex-representative of government #2, 4/10/2012)

Over the years, the trend of planning intensified with different initiatives being planned and undertaken. This actor added another type of data assessment contributing to this trend that led to an increased period of planning during the same period:

“At the final of the 90s, I think we had the first Vulnerability Assessment done in the country, in 97-98. Thus, I think it was all this exercise of different types of information

that was collected. Then, we became aware of the problem and a work to increase awareness was done. So I think it was a series of factors that contributed (to multisectoral work for nutrition).” (Ex-representative of government #1, 04/09/2012)

This increased awareness led to further planning with more and more documents augmenting this planning trend in the country. The senior actors explained how international events also contributed to influence the work related to FSN in the country:

“The World Food Summit was one of the main events because before SETSAN and after the World Food Summit, everything happened. Before the summit, we prepared the whole document of the country to participate in this summit... I participated in the World Food Summit and this intersectorial analysis with people from different sectors was done.” (Ex-representative of government #2, 04/10/2012)

These precursor events mentioned in the chronology and the quotes illustrate this incrementalism, that small steps were reached over time, leading to a large shift in the way the work in nutrition was carried out. As found in earlier cross-country research, societal conditions and catalytic events was identified, such as the post-war and international events in Mozambique, as a major theme in the nutrition policy process and influence how an issue progresses [44]. We can also see that some of the factors increased the legitimacy of the issue of nutritional problems. For example, when an international event occurs or an expert develops recommendations that lead to official documents, those provide a higher status to an issue. An important dimension also mentioned by actors in this context was the importance of relationships. When this nutrition actor told me: “you know, we were just a bunch of friends discussing around a table and make things happen.” Thus, the relationships help carry out the work and help get more people committed. In sums, societal events, international conferences, official documents and studies, recommendations by experts all appear to have contributed to make nutrition an important issue and accelerate the planning to develop actions and address the situation.

The previous factors were identified retrospectively, but if we look at the most recent factors, we can find additional factors that made a significant contribution. **Table 24** presents a timeline of recent development related to the PAMRDC and a narrative of some influencing factors followed.

Table 24: Timeline of the development of the PAMRDC in Mozambique

Year	Event	Description and Contribution
October 2009	High-level UN mission to Mozambique	<ul style="list-style-type: none"> - High-level mission of representatives of United Nations met with the Minister of Health Ivo Garrido and representatives of other key ministries to discuss the situation of nutrition in Mozambique; - Agreement reached to carry out a national seminar with the objective of obtaining consensus for the elaboration of a multisectoral action plan for the fight against chronic undernutrition.
January 2010	Landscape analysis	<ul style="list-style-type: none"> - The assessment aimed to review the implementation of effective nutrition actions, build awareness, create support and make recommendations for a multisectoral action plan for about chronic undernutrition; - The Department of Nutrition led the assessment team with SETSAN, UNICEF, WFP, FAO, WHO, and HKI; - It was a preparation for the national seminar in March.
March 2010	National seminar	<ul style="list-style-type: none"> - Multisectoral national seminar to decide on priority actions for the reduction of chronic undernutrition in Mozambique; - Agreement on priority actions and signature of a declaration of commitment by Government ministries and development partners for an accelerated response for the prevention of chronic undernutrition in Mozambique; - The Minister of Health Ivo Garrido emphasized that the nutritional problem was chronic malnutrition and not acute malnutrition among children, as many actors thought.
September 2010	Approval of the PAMRDC by the Council of Ministers	<ul style="list-style-type: none"> - This multisectoral action plan becomes official, demonstrating a certain commitment by Government to address the problem of chronic undernutrition.
April 2011	Document: <i>“Multisectoral Action Plan for the Reduction of Chronic Undernutrition”</i> (PAMRDC)	<ul style="list-style-type: none"> - Development of the PAMRDC, electronic version with a preface signed by the Prime Minister and shared with partners.
November 2011	Paper copy of the PAMRDC	<ul style="list-style-type: none"> - The finalized Portuguese and English versions of the PAMRDC were sent for printing to distribute nationally to Government and partners (600 copies).

March 2011	National workshop on community nutrition	- Triggered the creation of multisectoral group in the provinces that initiated a planning process regarding the PAMRDC.
May 2011	Distribution of copies of the PAMRDC	- Copies of the PAMRDC were distributed to government ministries at the central and provincial levels, and to partners (delay due to printing problems).

In the recent experiences, various actors attributed the PAMRDC to a previous Minister of Health. A critical event was when this Minister participated in an international conference on nutrition and upon return demanded to mid-level actors that a plan be created in nutrition, as expressed by this participant:

“... regarding the development of the plan, at the beginning, an international meeting occurred in which the past minister (of health) attended and said: “in nutrition, we really need to have a plan ... there is funding available, but without a strategy, without a clear plan, no one will provide funding. Thus, it is urgent that we develop this plan.” This is where the plan about chronic undernutrition emerged.” (Government representative, 04/18/2012)

Some actors referred to this same Minister of Health as taking a leadership role and producing a movement in Mozambique. His request for a plan was key to initiate this movement in nutrition and he received the support of several partners. He seems to have played the role of a political champion, not only influencing technical actors within his ministry, but influencing political actors. One participant explained his role during a national nutrition seminar:

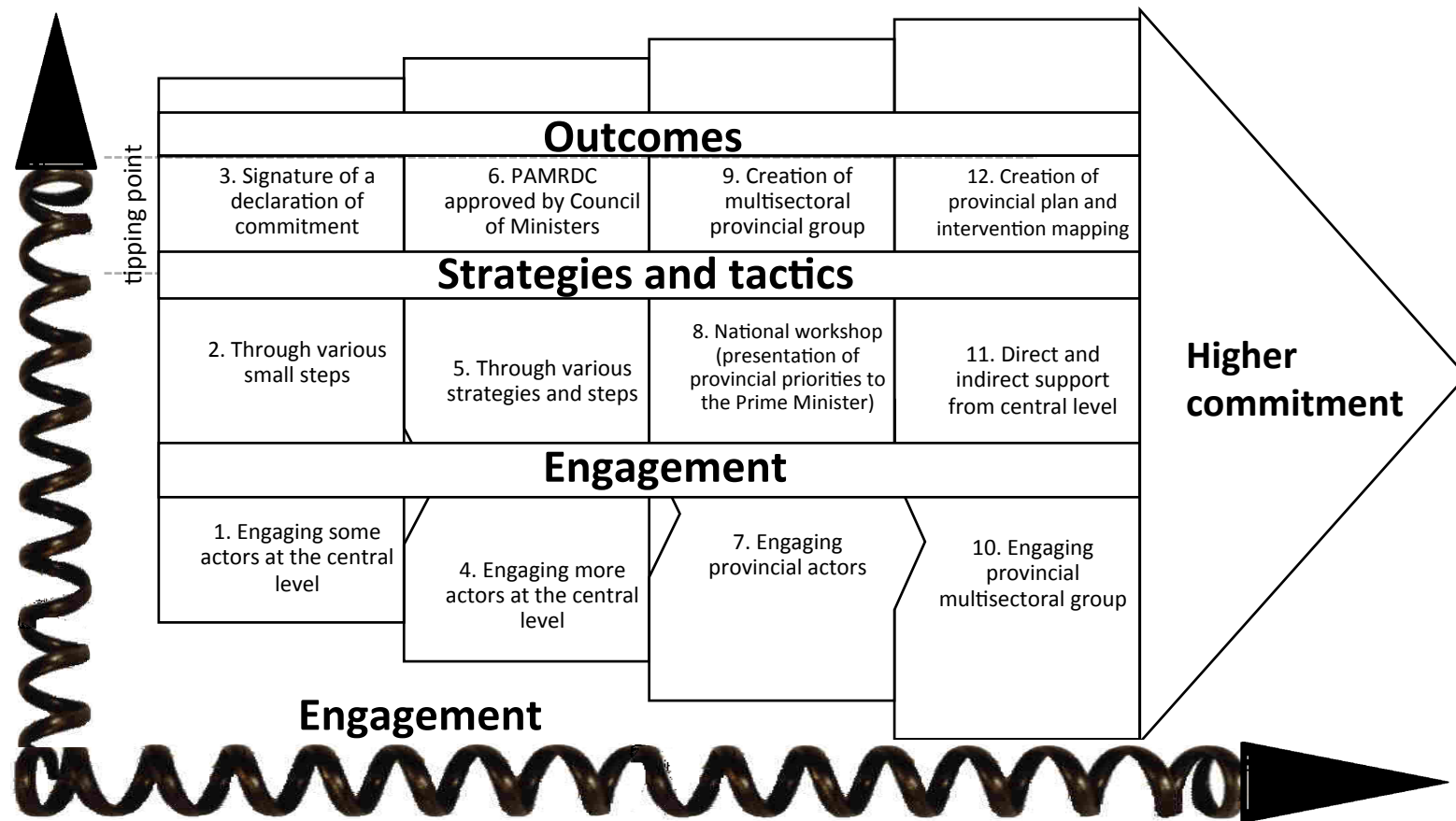
“There was the nutrition meeting organized by the Department of Nutrition. It is there that an assertion was done. The Ministers used to say that the problem of nutrition, of malnutrition in Mozambique was acute malnutrition and it is chronic malnutrition. The fact that he (the Minister of Health) said that (the major nutrition problem is chronic malnutrition) at this meeting, we can say it was a triggering factor.” (Representative of a UN agency, 04/11/2012)

This meeting was a triggering factor for increasing the awareness of the problem of malnutrition among various actors in the national system. Another critical event mentioned by several actors was a consultancy carried out by Roger Shrimpton (senior nutrition advisor, HKI,

February 2002) and the resulting document called “*A Strategic Plan for Nutrition in Mozambique*.” This document was identified as an important contributing factor to the PAMRDC and was clearly trying to attract political attention to the problem. This expert performed an analysis of the nutrition situation of the relevant government programmes and institutional capacities and provided recommendations on actions to be prioritized by the MOH in the following five years. He highlighted the importance of nutrition and pinpointed that the negative consequences of malnutrition was not even recognized in several important documents of the country, such as in the National Poverty Reduction Plan (PARPA) and the National Strategic Health Plan (PESS). More specifically, he mentioned a gap in the conceptualization of poverty reduction of both national plans. In sum, this document included a substantive basis for the inclusion of nutrition into poverty reduction strategies. In the following strategy (PARPA II), a section on food security and nutritional security had been included as an additional cross-cutting topic.

According to some senior actors, those documents previously developed were important contributing factors to form for the basis for the PAMRDC. Understanding better how factors have contributed to the multisectoral work in Mozambique can help develop other strategies. It is necessary to dig deeper to understand even more how those factors contributed. Formal documents or events appear to advance an issue through an acquisition of legitimacy, when those documents become official. This then can create a tipping point to reach another level of influence. To understand this in more detail we now turn to an analysis of the incremental actions that were part of this process and led to a higher commitment of various actors as shown in **figure 9**.

Figure 9: Engaging various types of actors through strategies



This figure illustrates the concept of incrementalism in actions, as we move up in the numbers (on the figure to better read the framework). Every time that a tipping point is reached (for example, for # 3, 6, 9, 12), it represents a higher level of hierarchy in terms of influence of the strategies. Although numbers are used to orient the understanding of the framework, there is no complete linearity that is assumed considering the complexity involved and the numerous factors influencing, which is illustrated by the spirals. However, there seems to be levels of influence that actions can have. It is the same as conceptualizing the beginning with a threshold level in which actions begin at a threshold level and increase the influence until a tipping point is reached.

The type of strategy used in this figure is “engaging,” an approach found in the literature on health system research to deal with complexity, as presented in chapter 3. Engaging is also one critical element of the process dimension of a meta-framework in the implementation literature [56]. In reference to a national system, engaging a great number of people can enhance their commitment to an issue that can over time contribute to develop a system-wide commitment, as actors form a larger movement in the system and actions multiply and intensify. The outcomes found in this figure were tipping points that legitimized the actions through formalization of groups and documents. To link to the framework in chapter 3, we also see that those outcomes are tangible. By having used “engaging strategies,” it is very likely that many intangible and 2nd and 3rd order effects were also created. Also since they cannot be easily measured, they can be ‘catalysts for change’ (element #4 in the framework for strategic system thinking, in chapter 3). They represent positive energy accumulated in the system that may never be measured but can create what is referred to as the “butterfly effect,” small things that can, under certain conditions, lead to large outcomes. This actor mentioned this idea of legitimacy:

“Before the PAMRDC, there was not really a Government plan that we were using for our planning. At least, I had never heard of any, and ... [the previous country director] never mentioned any either. The plan legitimizes what we are doing for the donors. We can say that this is a government priority and that the Government is committed to this.” (Representative of a NGO, 21/09/2011)

This actor explains an important way strategies can advance the agenda in nutrition: plans and formal document provides implementers, technical agencies or donors with a justification for their program focus or strategies. This statement is easily supported by the numerous documents from donors and implementers about their FSN strategies, as they frequently refer to the plan to justify their actions in the area of food security and nutrition (“invocation” in the policy sciences framework). This is also consistent with the literature, as reported in one article from the Nutrition *Lancet* series: “the presence of nutrition policies and plans, although not sufficient to guarantee political commitment and action, can also contribute to making nutrition a priority” [12]. This was also highlighted by this actor when discussing the main achievements of the plan, also supported by others:

“For me, the plan is a major achievement. Even though you can be cynical and say “it’s only a plan,” I know, but if the plan wasn’t there, we would not have this whole momentum. So I think the plan is a major achievement.” (Representative of a UN agency, 04/13/2012)

It is also interesting to look at a counterexample regarding what was happening in the agriculture sector:

“At the moment, in agriculture, there is an important lack of funding in agriculture because ... they took too long finalizing the strategy, the PEDSA. At the moment, donors instead of being 9, only 2 are left. It represents 5 million \$ instead of 50 million \$... We have not signed the Memorandum of Understanding ... we cannot fund directly.” (Representative of a donor organization)

The existence of a strategy or a plan is critical to justify implementers’ actions to their donors, and negative consequences, or missed opportunities, can occur in the absence of a plan. However, the existence of a plan does not guarantee implementation. This same actor emphasized

that a plan for funding is also critical. This donor was not funding the PAMRDC directly at the time of the interview, but its organization later committed funding through funding the work of a UN agency. This actor added:

“It is a little bit the same thing as the PAMRDC. We play the game of cat and mouse because the plan is not out yet (in agriculture). Some donors said that they do not know how they are going to fund it (agriculture). This plan was supposed to be out for the month of May. I doubt that the MOA will ... if they finalize it by the end of the year, it would be pretty good, but for the moment, we do not have a frame in which we can say that we intervene in the MOA.” (Representative of a donor organization)

Therefore, the plan not only provides legitimacy, it also defines how things will be done or funded. However, developing those plans has been a major challenge at all levels in Mozambique. For instance, a UN agency has led an initiative to try collecting information about what activities of the PAMRDC had already committed funding from donor agencies. Considering that the PAMRDC include 64 activities from many sectors that require funding, the costing of these activities was extremely complex and difficult. The experience mentioned by this representative of a donor organization highlights that in the absence of a sectoral plan or strategy, the government ministries are likely to lose important sources of funding because some of the donors (who channel funds through government rather than directly to NGOs) require such a plan in order to commit and provide funding. Thus, costed plans and operational plans are necessary, in addition to the indicative sectoral plan. If we refer to an episode mentioned in the workshop chapter, when nutrition actors did not take the opportunity to work on a draft and ensure the inclusion of the nutrition activities in a financing plan for the agriculture sector, it appeared a missed opportunity that could have dire consequences. Therefore, plans can authorize the work, and allow moving to a higher level of commitment and progress, which we examine in the next section.

“Plans are useless but planning is indispensable”²¹

This quote has resonance in the international nutrition community because it calls to mind the long legacy of plans “sitting on the shelf” and never being implemented. But the previous section introduces a major qualification: if plans are useless in the sense that they do not guarantee action, at least they help nutrition acquire much-needed legitimacy, which the Mozambique actors demonstrate is necessary for building further awareness, commitment, operational plans and funding. In addition, the plans themselves and the planning process can help enlarge the engagement, which is crucial for further progress as discussed next.

AGENDA FORMATION (Promotion)	<ul style="list-style-type: none">- Recommend and mobilize support for policy alternatives.- Open and activate debate about what to do.- Which groups (official or unofficial) are urging which causes of action?
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One of the earliest functions of the policy process is agenda setting, defined as “the process by which problems come to the attention of governments”[100] (p.15). A study examining agenda setting, policy formulation and implementation in five countries found that it is not enough to get *political attention* (e.g.: through speeches). A deeper *political commitment* is needed (e.g. allocation of the necessary authority or resources to relevant ministries), which requires sustained efforts to achieve. In addition, generating a *system-wide commitment* from mid-level officials, staff and managers is of major importance, but may require the help of high-level political champions [44]. Nutrition advocacy is also essential to influence commitment and several lessons and principles to strengthen practices and capacities have recently been articulated [61].

From the policy process, the decision function of “promotion” refers to:

²¹ Quote included in the book (Patton, 2011) from Dwight D. Eisenhower, commander of Allied Forces in World War II and president of the United States from 1952 to 1960.

“...function of recommending and mobilizing support for policy alternatives” [33] (p.61).

Promotion is required to produce enthusiasm and support from many actors, including politicians.

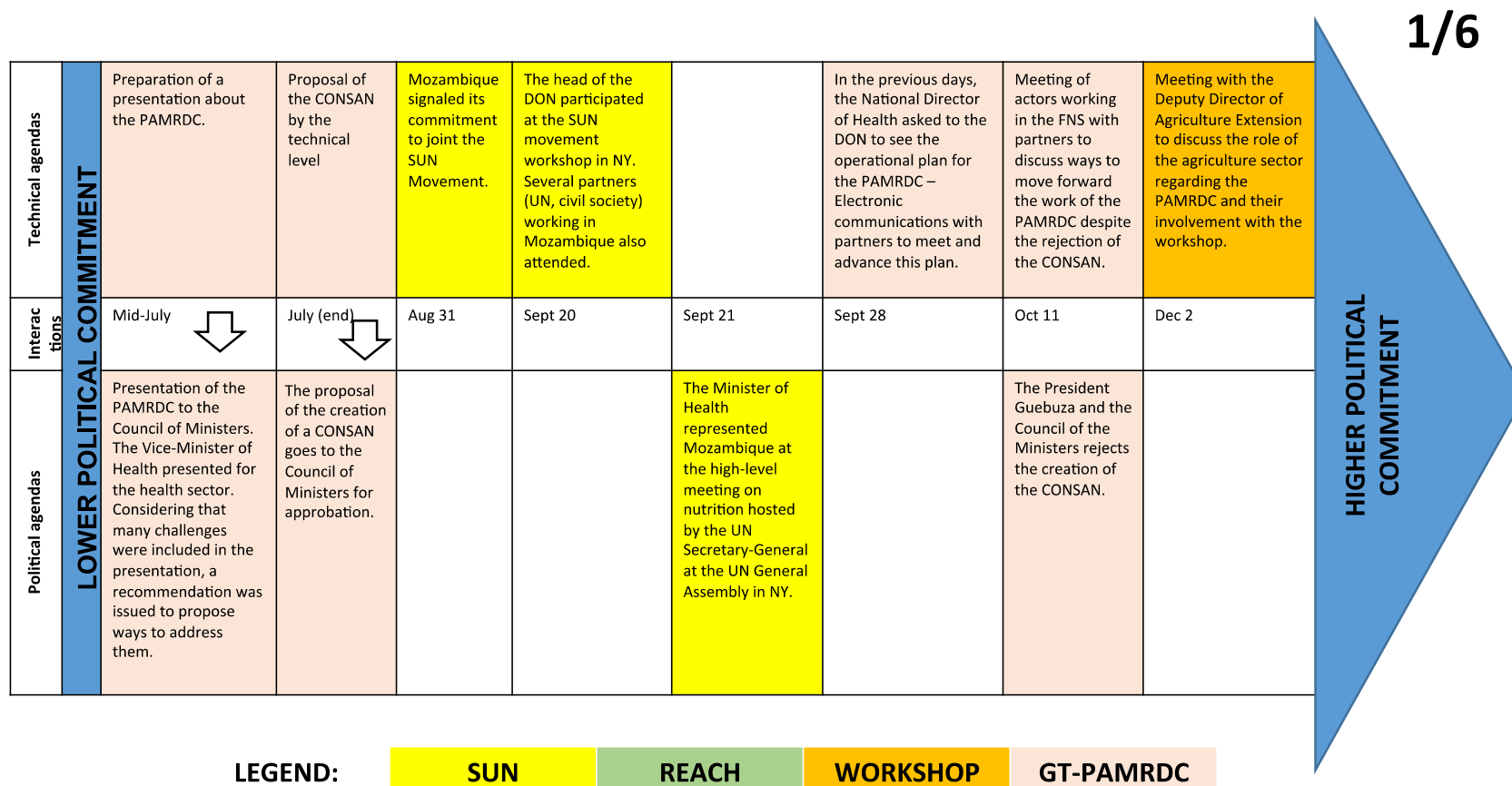
Diverse literatures discuss different factors influencing the agenda and the importance of getting political commitment to place nutrition high on the political agenda, and not only to get political attention. Various literatures appear to under-estimate the influence that the technical agenda and actions of mid-level technical actors can have on the political agenda to move the nutrition agenda forward and contribute to agenda formation. Examining if/how the technical agenda influences the political agenda is important considering that political people can change quickly so there is a need to influence many of the political actors. In addition, when we look at the definition of agenda setting used in the literature, the centrality of considering only the governmental agenda appear to neglect that various types of actors (donors, government, NGOs, UN) have different agendas that also influence the government agenda and the priorities. In fact, multiple agendas influence the government agendas (technical and political) as these actors carried out many efforts in a national system. This was highly the case in Mozambique, influencing both the political and technical agendas.

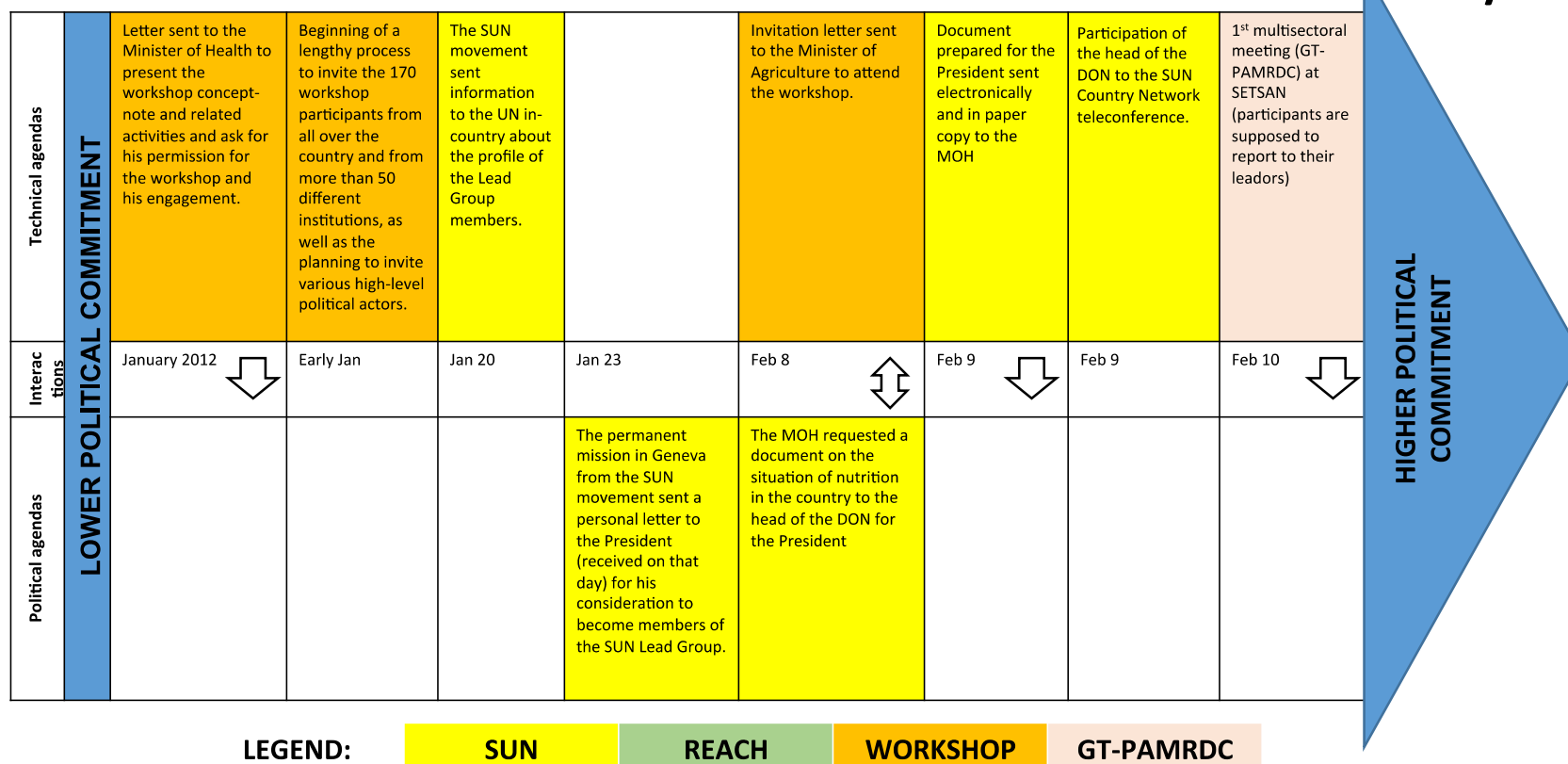
This is further illustrated when discussing operationalization later but some donors have provided an important leadership regarding the PAMRDC. Those first leaders were donor organization who, by committing funding for nutrition, have been motivators to engage more donors in supporting some actions. This led to an expansion from 1 priority province to 3 priority provinces. Therefore, just as “commitment” is considered to apply to “all actions in a system” (Heaver), “the agenda” should also apply to all types of actors in the system, emphasizing that important synergies can be fostered when the various agendas are aligned. Thus, the existence of








multiple agendas is under-discussed but needs to be considered by practitioners who aim to develop strategic actions, to move an issue up onto the various agendas. If we understand better what factors influence the technical agendas and political agendas (including donors, UN, NGOs), and how they do so, we can develop better and stronger strategies to influence and act upon those agendas and acquire a certain synergy when actions and agendas are aligned.

One relevant question is: How has the technical agenda influenced the political agenda? In Mozambique, several means were used as interactions between the political and technical actors, such as through various demands, documents, strategies; engaging with a diversity of political actors; increasing their attention, awareness and understanding of critical issues; providing them with “solutions”, that are, proposals of responses or recommendations; and seizing the opportunities when they come. **Figure 10** illustrates how several factors/actions influenced the technical and political agendas, especially related to three initiatives related to multisectoral nutrition work, that are: GT-PAMRDC (representing government actions in this figure), SUN, and REACH, especially related to the workshop. Those illustrate how several actions seem to have contributed not only to increase awareness and attention, but also to reach a higher political commitment. This figure also illustrates how certain actions by different types of actors can act synergistically; illustrating the influence of a strategy of engagement, when efforts to increase the attention, awareness and understanding in on a set of several high-level actors to lead to greater commitment. The data were collected prospectively during a period of increased frequency and intensity in interactions due to the workshop on community interventions and related activities. Indeed, the workshop itself became a major vehicle for expanding these processes by virtue of the extensive engagement of actors in the planning, communication, authorization, opening and closing speeches, media coverage and other activities.

Figure 10: Engaging high-level political actors into multisectoral nutrition work





Technical agendas	LOWER POLITICAL COMMITMENT						
	Letter from Dr. David Nabarro to receive an update on the SUN Movement global stewardship arrangements, specifically on the composition of the SUN Lead Group.	Document sent electronically to the advisor of the PM to invite the PM to the workshop to do the closing discourse and participate in a video.	Exchanges with the advisor of the PM to fix a meeting for filming the video.	SETSAN asked support to the DON to prepare the presentation on the status of the implementation of the PAMRDC. Message sent to all the provinces to receive an update about their province (SETSAN focal points) to prepare the presentation.	Letters signed by the MOH to the PM and First Lady to ask participation in the video (formal document). Scan copy of the letter sent to the advisor of the First Lady for the video asking her help to fix a meeting (informally). The DON shared the news of the acceptance of the PM and the UN Resident to participate to the video. Sending of the presentation on the status of the implementation of the PAMRDC to the MOH to present to the Council of Ministers.	Exchange with the advisor of the PM to try fixing a meeting for filming the video.	Discussion between the DON and the director of health to prepare the justification letter for the PM.
Interactions	Feb 10 	Feb 13 	Feb 16 	Feb 17 	Feb 20 	Feb 23 	Feb 25 
Political agendas		Confirmation of reception of documents by the health advisor of the PM	Advisor informed about travels of the PM. Fixing of a potential date for Feb 23-25.	Request to SETSAN of a presentation on the PAMRDC for the Council of Ministers	Reception of the presentation on the status of the implementation of the PAMRDC, as requested on Feb 17. Presentation to the Council of Ministers reported to Feb 28.	Filming with the UN Resident in Maputo (video)	The advisor of the PM asked the MOH if the participation of the PM to the workshop is necessary.

HIGHER POLITICAL COMMITMENT

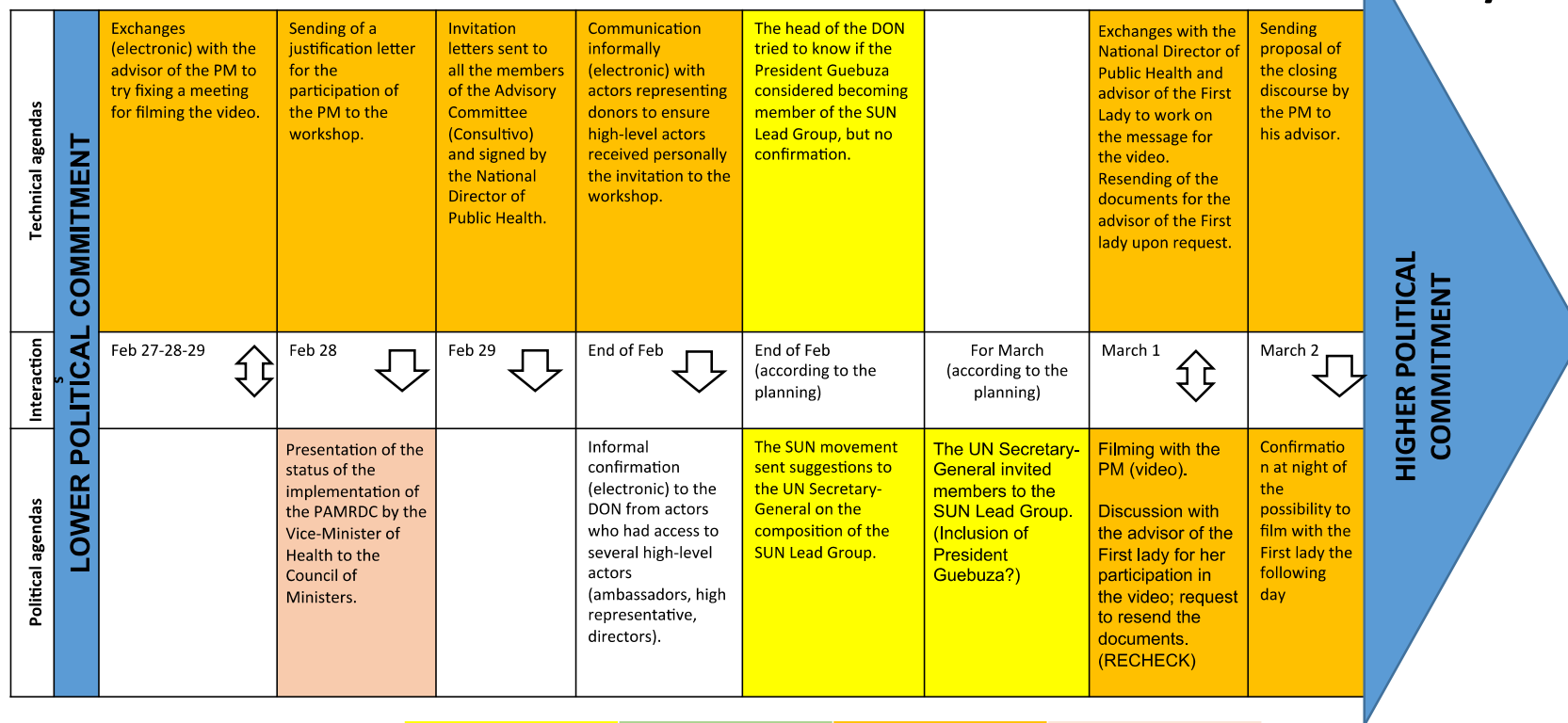
LEGEND:

SUN

REACH

WORKSHOP

GT-PAMRDC



LEGEND:

SUN

REACH

WORKSHOP

GT-PAMRDC

5/6

Technical agendas	LOWER POLITICAL COMMITMENT							
	Filming with the First Lady (video)		Workshop		Follow-up with the advisors of the PM, and the highest UN representative in Maputo after workshop to thank their engagement.	Participation of the DON and SETSAN to the SUN Country Network teleconference.	Technical level of a UN agency sent a copy of the letter to the Cabinet of the President for inviting the President to become member of the SUN Lead Group.	
Interactions	March 3	March 5 ↑	March 6-8	March 8	March 19 ↓	March 30	April 9 ↕	April
Political agendas		Confirmation that the PM will do the closing of the workshop (by his advisor).		Closing discourse of the PM. Presentation of the video to the audience. Attendance of about 200 people including ambassadors and high-level representatives. Coverage in the news.			Invitation sent to the Cabinet of the President to invite him to be a member of the SUN Lead Group, but the letter was still not received on that day.	President Guebuza officially becomes member of the SUN Lead Group.

HIGHER POLITICAL
COMMITMENT

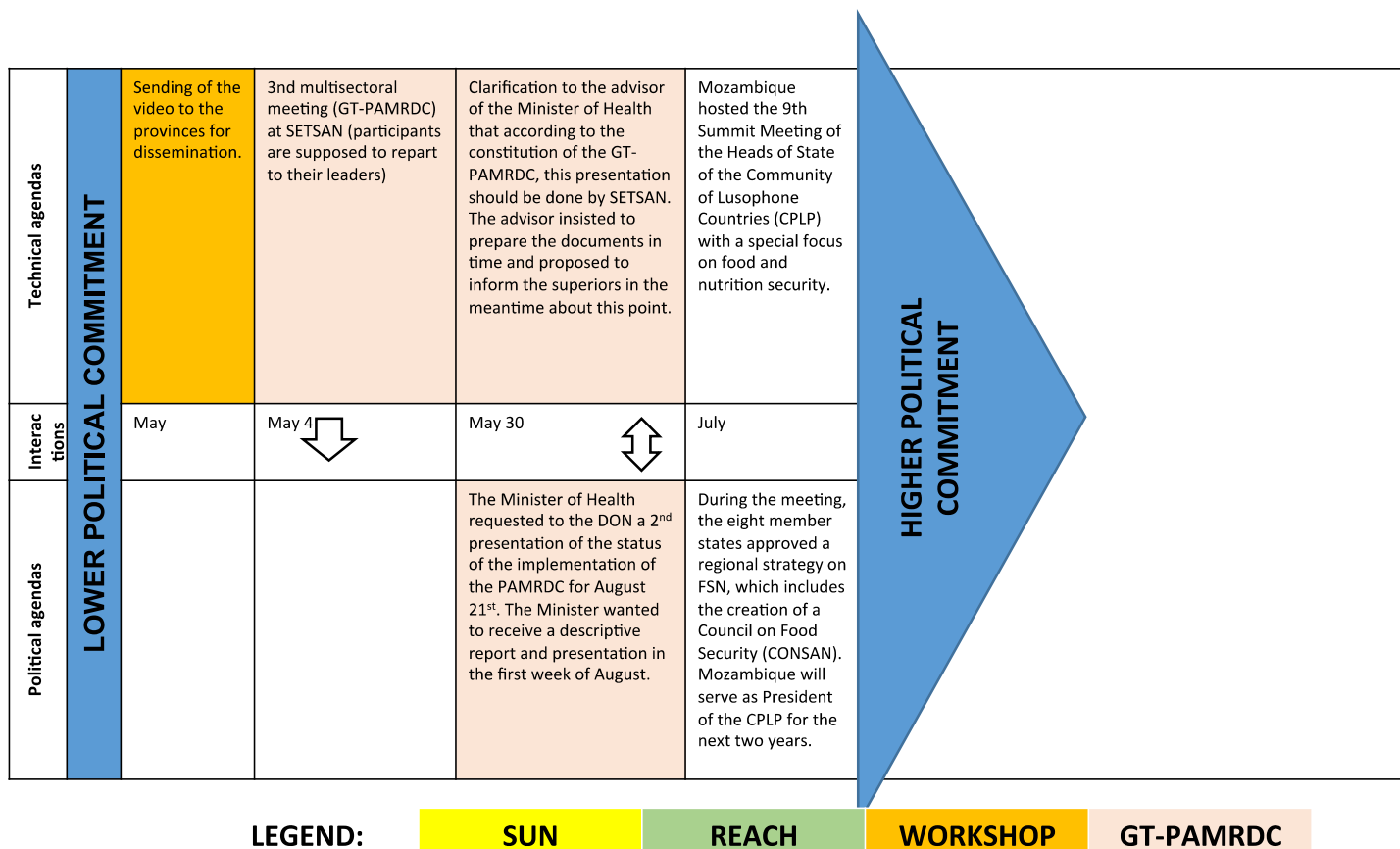
LEGEND:

SUN

REACH

WORKSHOP

GT-PAMRDC



As illustrated in chapter 3 and pictured in **figure 7**, the agreement of a high-level actor to participate in the video helped to legitimize the actions we were taking. If we take the element of the ‘hierarchy of processes’ from the framework on strategic system thinking to examine how a momentum was gained, we can see that informal communications channels for reaching the advisors was an entry point. The follow-up in those communications also ensured that we were ready to seize any windows of opportunity. **Box 11** illustrates some lessons from this example and **box 12** provides another example to illustrate contradiction that may arise with playing multiple roles, influencing legitimacy.

Box 11: Gaining legitimacy of multisectoral nutrition through various steps and strategies

Examining the actions and interactions included in the figure above by using the framework for strategic system thinking, we can see that some processes have helped to advance the issue of multisectoral nutrition work on various agendas.

Hierarchy of processes

The framework for strategic system thinking introduces various levels of processes. The following examples illustrate several strategies that helped to increase the legitimacy of the different efforts aiming to make progress on multisectoral nutrition:

- Approval of the concept-note by the Minister of Health and invitation letters sent to workshop participants mentioning the closing of the workshop by the Prime Minister;
- Cascading effort of the participation of the high-level UN representative in the video, leading to further acceptance to be part of the video;
- Rejection of the creation of the CONSAN.

Workshop concept-note approved by the Minister of Health

One early step in gaining legitimacy of the workshop was when we decided to try to get the involvement of the Prime Minister. When we wrote the concept-note, we shared it with the National Director and the Minister of Health to ask for their support and approval. By both including that the Prime Minister would do the closing of the workshop in the concept-note, and having the approval of superiors on the concept-note, all the actions we were taking were legitimized, but more, it appeared to give a higher status to the event. In reality, the official confirmation that the Prime Minister would do the closing of the workshop came the day before the first day of the workshop. We could not be sure before, but by including it in the concept-note, getting the approval of the Minister of Health, and following up intensively with the advisor, this led to an effective strategy. Even later, when the Ministry of Health asked us if it was really necessary for the Prime Minister to be there, we diplomatically said that this had been agreed to and that all participants and high-levels were expecting his presence and his important leadership regarding multisectoral work. Small steps lead to bigger effects (complexity analogy: butterfly effect).

Participation

We can also examine more closely the example of the video related to the workshop

of high-level in the video	described in the workshop chapter. The making of this video was an opportunity to increase attention to nutrition by communicating with the high-level individuals (even indirectly), and slowly engaging them in the process. In figure 10 , we can see that many factors may have influenced their actions, but once a momentum was reached, a cascade of effects happened: the participation of the UN resident helped to gain the agreement of the Prime Minister that then helped us to come back with more insistence to the advisor of the First Lady. We were able to film with her three days before the workshop (the video was presented at the workshop). We learned at around 7:00 the night before that there was an opening, a short window of opportunity, and because we had worked to open it we were ready to seize it. Therefore, windows of opportunities can be fostered even if some remain unpredictable.
Rejection of the creation of the CONSAN	<p>SETSAN had worked hard for the proposal of a CONSAN that they perceived as a way of giving them more autonomy, because they were the first to recognize the challenges of carrying multisectoral coordination when remaining under the MOA. When the President and the Ministers rejected the proposal of the CONSAN, it was highly perceivable that this was a very large disappointment when the national coordinator explained us how it happened in a meeting involving actors working in FSN.</p> <p>At that meeting, the actors embraced the idea that we needed to continue the work. This meeting was very positive and with deep discussion about the work carried out. This was not only my feeling from having participated in the meeting, but also the several emails that followed to acknowledge my thanks for that positive meeting. Thus, a negative outcome does not mean that the work stops. It may prepare the work for another future possibility, and this seems to be what happened.</p> <p>As seen in figure 10, we discussed the rejection of CONSAN (around October 2011, no precise date because it had happened previously), but it fostered positive interactions between two groups of people (food security group and nutrition). In July 2012, Mozambique served as the President of the CPLP (Portuguese-speaking countries) and would do so for the following two years. Mozambique hosted an international event in which the eight member states approved a regional strategy in which the creation of a Council of FSN was accepted. Thus, the previous rejection of the CONSAN may have helped to develop a favorable condition to lead to the later agreement.</p>
Catalysts for change	All those strategies appear to have helped move the issue up on the agenda of various organizations. In sum, if we refer to the framework for strategic system thinking, the catalysts for change in these examples were diverse. For the making of the video, the informal channels helped gain access to and agreement of the engagement of high-level actors. The close follow-up with the advisors helped ensure that we were able to seize windows of opportunities when they appeared. The international individuals and movements allowed the opportunity to give a higher visibility to nutrition among those high-level individuals and a Council was approved later.
High-potential system effects	The examples that discussed various actions and processes carried out illustrate the likelihood of reaching high-potential systemic effects. As was also introduced, process is one important element of the negotiation framework. Thus, examining the hierarchy of processes can open many more possibilities of reaching favorable outcomes among ourselves.

Influence of international agendas and actors

Figure 10 illustrates that the actions from the international initiative of SUN movement acted as catalysts or in synergy with the actions carried out by local technical actors. When reading by color, it allows following how the work of the actors involved in those organizations have evolved. It is important to mention that certainly not all the factors and actions influencing the agenda are included in this timeline of events. However, as I was directly involved at the MOH and personally carried out many of those actions, especially regarding the national workshop; thus, those are more represented. As illustrated in **figure 10**, the SUN movement influenced positively the technical agenda and the political agenda, through several means. This influence was recognized in this context as supported by this highly involved actor:

“SUN ... I do think it's positive.... it has forced Mozambique a few times to take decisions and to pronounce itself, which you could say, “Ok, they have just sent the Minister of Health to that one meeting in New York,” it does not mean anything ...

REACH... at least it has pushed Mozambique a few times, like I said it could just be artificial push, but I do think it has. Because of the SUN Movement ... we have a donor platform. Everybody needs to report about what they do in nutrition, so they have to... I think it is positive in the end. You can be cynical about, “is it really sustainable?” I know that, but I think in terms of donors involvement, in terms of advocacy, it is good.” (UN representative)

Another actor from the Government also perceived those initiatives as positive and as opportunity to catalyze on this additional influence to progress on the issue, as mentioned:

“We have a lot of expectations because last time that the global coordinator was here, I was telling him that we need to organize well the meetings because when he comes, we can take advantage at the technical level. He can knock to our doors, the doors that we cannot open, he can give a hand to open them. Do you understand?” (Government representative)

Another actor commented on the risk of losing momentum because of delays in beginning the REACH initiative:

“Well, I stopped having expectations. I had a lot of expectations regarding REACH but because I feel it is taking long, I stopped having expectations, in reality. I stop expecting about what it is written in the paper that they will do and that they are doing in the countries. The expectations are huge. It is like if we have this expert who comes to tell us (what to do), to respond to all the technical difficulties that we have. If we need to decide on monitoring and evaluation indicators, then, REACH comes and responds. We are going to design a structure for coordination, then, REACH comes and responds. But I do not know if in fact, they are going to do this because it depends of the people, and I do not know who comes. So at this moment, I do not have expectations. I don’t have. It is like ‘seeing to believe it.’” (Government representative)

In **figure 10**, there was not much interaction with REACH. Some actions may have occurred without the MOH being too involved, but even then, the process of beginning the activities was very slow. Two years after I had submitted my proposal for my A-exam, which aimed to study the REACH facilitated process, the REACH facilitators had still not started working in Mozambique. Thus, the expectations were greater early on, but as time was passing and not much was happening besides some productive visits with the REACH high-level staff, some actors had lost hope. Thus, it appears that the international actors can influence the political agenda (through trying to engage political leaders or having their high-level people putting some pressure on the politicians). But also, they influence the technical level by helping to open doors and as we can see. When their agendas are somewhat aligned it is more likely that the influence will be greater and help legitimize the issues and actions.

An additional point illustrated in **figure 10** is that the political agenda does not refer to one person, but there are many individuals. In addition, the evidence presented does not even considered the roles of the provinces. Given the decentralization process underway, and the measure of voice and autonomy that they have, the provinces represent yet another group of actors to engage.

Alignment of the components of the system

When we consider all the initiatives in a national system, we can see that those can produce more positive influences when the actions of many actors, groups, institutions and initiatives are aligned. **Figure 11** illustrates that many actions are carried out in the system and this appears to produce a movement. When people cross-over between those different initiatives, the information-sharing, communication and deliberations on different issues can enhance the likelihood of alignment. For example, the national workshop explicitly had objectives related to alignment, through various strategic elements included. When assessing workshop outcomes, actors shared how they had altered some of their actions as a result of their participation in the workshop, expressing somewhat a desire to align with priorities of the PAMRDC. In addition, many participants expressed the limited opportunities they have for those types of activities in which there would those “cross-over.”

These data reveal that some activities, such as workshops and cross-over conversations can foster alignment but the Mozambique experience suggests a need for greater intentionality regarding alignment. There would be great benefit if some actors in the system could be attentive to alignment and mis-alignment within the community, but this type of work would not fall under any institution mandate because of the institutional lines of authorities. However, this could be done informally by a few individuals. When instances of misalignment are detected actions could be taken to correct the situation. This leads us to consider how can alignment be fostered in a national system and what can help to get greater system-wide commitment.

Box 12: Questioning the legitimacy to participate in numerous groups - contradiction

Playing multiple roles	In Mozambique, I played several roles allowing me to move from one group to another one due to the various groups I was associated with because of previous and current engagements. Several times, actors told me that they found useful that, for example, at a partners groups, I could discuss the current work within the MOH (nothing confidential), for example, gives update on the workshop development.
Participation to Nutrition Partners Group	Most groups began through an informal process in which several individuals had taken the leadership and mobilized other actors. When I entered the discussion about multisectoral work, I worked for the Food and Nutrition Technical Assistance and had been invited primarily because of my interest in coordination. The group was at its first “formal” meeting and they were preparing for the election of a president. I had also legitimacy of participating in the group because DANIDA was funding my position to work at the Ministry of health, providing direct support for the PAMRDC. v Over time, when the groups were getting organized, beginning to develop and establish their functioning. They developer TOR, workshop, establish eligibility criteria, etc.
Contradiction to resolve	In December 2011, after 8 months of participation at the monthly meetings of this group (and 3 months that I was at the MOH), I questioned the leaders if it was still ok for me to attend the meeting. The head of the Department of Nutrition was not allowed to participate in those meetings, but I was. There was an appearance of a contradiction and this feeling made me question my legitimacy in being part in those 2 groups when my government counterpart could not. Three months after I had raised myself the question, one of the leader told me that she was really sorry, but there was indeed a contradiction and that I could not continue participating.
Insights	This episode illustrates that when the different groups develop during the operationalization, the mechanisms between groups need to be established so groups become part of a common system, like the nod, hub and superhub from complexity concepts. Otherwise there is a risk of the groups being self-organizing, and not contribute to the broader system. Personally, I understood because I had raised myself the issue. However, I was disappointed because it was a great sources of information and networking. In addition, the following meetings were to discuss the coordination structure, but I could not participate. Thus, this further illustrate that the rules in the system may be contradictory and different from one institution to another one, or one group to another one, thus, impeding collaboration and the transfer of information.

Achievements representing system-wide commitment

Finally, the main achievements perceived by actors regarding the multisectoral work refer strongly to elements related to system-wide commitment. **Table 25** illustrates a major theme: an increase in the number and variety of actors, groups, events and actions in the system. This increase in the volume and variety of actions has been an important achievement. This is so not

only because of the actions themselves but, from a complex system perspective, because it expands engagement, helps generate movement in the whole system and increases the opportunities for synergy.

Figure 11: Alignment and synergy of actions to get system-wide commitment

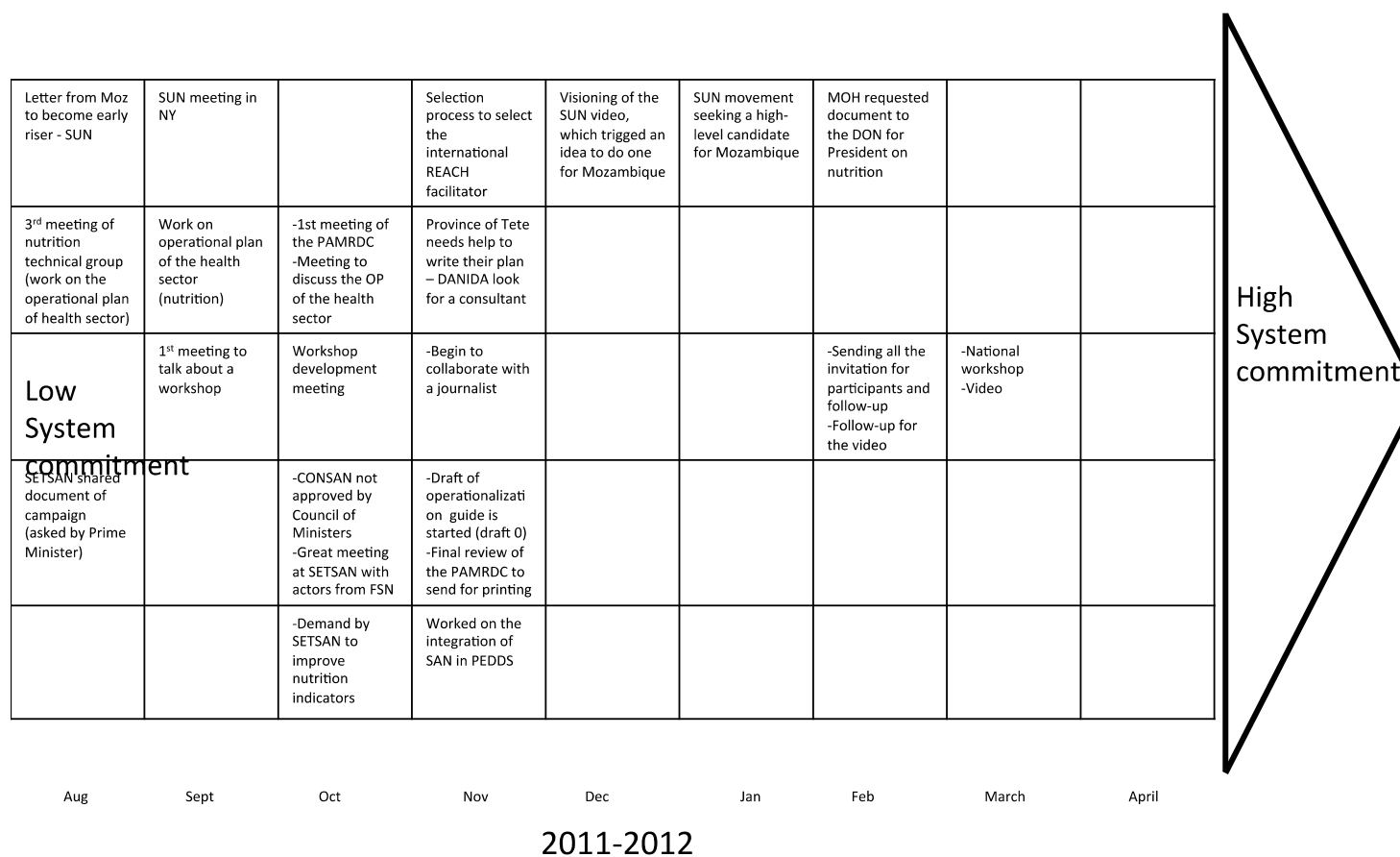


Table 25: Perception of stakeholders reflecting system's commitment

Area	Quotes from actors
Political commitment	But then, of course, now that we have political commitment, which is also a great achievement, because ... the CONSAN idea felt apart, but now, we actually, we or somebody or the politicians decided that now they are ready to commit, so that's good on a global scale with the SUN, that is really good.
Planning in the provinces	What really kick started a lot was the workshop because after that, I don't think they were doing it, maybe they were in the provinces but it kick started some processes of planning in the provinces, which I am not sure would have happened that fast if the workshop hadn't been there.
Activities	More nutrition-related activities are being done, now that we have the food fortification strategy, the activities are starting there,
Institutions	There are lots of organizations working in nutrition.
Funding	Money also is slowly coming into their activities so there are more activities in nutrition.
Agreement	We can say that we have an agreement between various institutions and we are all thinking in the same manner and this is the first achievement
Other action	I think that also set in motion the whole Mozambique becoming part of the SUN movement, the early-riser, which I think, like I said earlier, take a whole different level.
Time	One of the achievements is ... we're a small group but I think there has been consistent commitment. It has been, what, 2 years now, more than 2 years, ... that people are still very much around the table, committed to coming to the meetings, driving the issue. People are still investing a lot of their time. A lot of these members of <i>grupo técnico</i> , and they're working in nutrition anyway but nonetheless, I think people are spending a lot a lot of other time, investing a lot of time, in making sure that this plan is true, the things are being implemented, that the funding is committed.
Priority provinces	And then, that they have also put some targets that the 3 to 4 provinces this year, and then (inaudible) next year.
Interest from other sectors	E era impensável a uns anos atrás ouvir essas pessoas de Industria e Comercio preocupadas com o PAMRDC ... então eu penso que esses são os primeiros sinais. (21:31) E é importante.
Documents	PAMRDC, TOR
Technical workshop group	I think that so far, the best thing that happened is that SETSAN was able to have working group that met twice, and have terms of references very clear; the people know what they are doing there. I tis true that it is an expectation from all the people to be like: "Ok, our group has this vision ... This is the vision and we are going to do this."
Nutrition Partners Forum	Only the fact the creation of this Nutrition Partners Forum, this is a very big progress and we made it ... we are united.

OPERATIONALIZATION

What does operationalization refer to within the policy process?
How was it carried out?

Over the period of my engagement with this community, the experience of trying to operationalize this action plan had mobilized many efforts, but there was still a widespread feeling that the challenges were numerous and we sometimes did not know where to start. This actor illustrated a feeling of novelty:

“...It is a new experience in the country. The plan itself is a new thing. It is true that multisectoral questions are not new, but this approach that we are trying to do now, it is a little bit new. Everything that comes ahead is novelty, so we don’t really know what will happen. We don’t have to wait for things to happen. All the steps that we are taking now, we are convinced that those are right, but the reality can prove wrong, so we will correct. We are going to go forward, correcting the mistakes and making adjustments. I think this is the approach that we need to take. The future is uncertain, it is always a supposition, it is not a certainty.” (Representative from government, 04/10/2012)

This quote illustrates the regarding actions taken by this group of participants. Despite great attention and efforts of many stakeholders working at the central level, more than one year after that the Council of Ministers had approved the PAMRDC, this action plan was far from being operationalized and implemented at all the different levels. Actors at the central level were experiencing tremendous challenges related to the coordination, operationalization, and implementation of the PAMRDC. As highlighted by Pelletier et *al.* (2011), it is frequent that “mid-level actors from ministries and external partners had great difficulty translating political windows of opportunity for nutrition into concrete operational plans” [40] (p.1). These authors also added that:

“The extensive investments in documenting the efficacy of nutrition interventions are unlikely to produce sustainable reductions in undernutrition unless and until these weaknesses in the policy spectrum are better understood and addressed.” [40] (p.2)

Thus, it appears that not only the operationalization, but also the whole policy spectrum is not well understood by policy actors. However, the lack of particular attention to

operationalization in the policy sciences was raising an important questioning: What the “operationalization” refer to?

As was seen in the agenda formation, little steps process has helped to make progress on certain issues. Considering that so many things cannot be anticipated, it appears promising to take such an approach with the large operationalization process. **Figure 12** can help conceptualize the operationalization process by representing it as a crosscutting and transversal process. In fact, simply put, the operationalization refers to rendering something functional. In this figure, the spiral signifies that the changes are occurring in a complex system (non-linear, high uncertainty, emergent, etc) but over time can move to from the threshold level, up to a tipping point and eventually a functional level and even high performance level. The operationalization process can be conceptualized as the things that need to happen below the functional line, it is what is required to make it functional. This is in line with the concept of incrementalism and “muddling through” [101].

Considering the multiple scales and embeddedness, a similar process can be envisioned for each of the interventions included within the PAMRDC. Thus, operationalization does not apply only to broad multisectoral work. However, in the multisectoral context, the complexity is greater because of the need to coordinate actors, policies, funding, technical issues and many other features. Those may sometimes involve the same actors, but not always. Thus, this overlap in groups is an important aspect to consider.

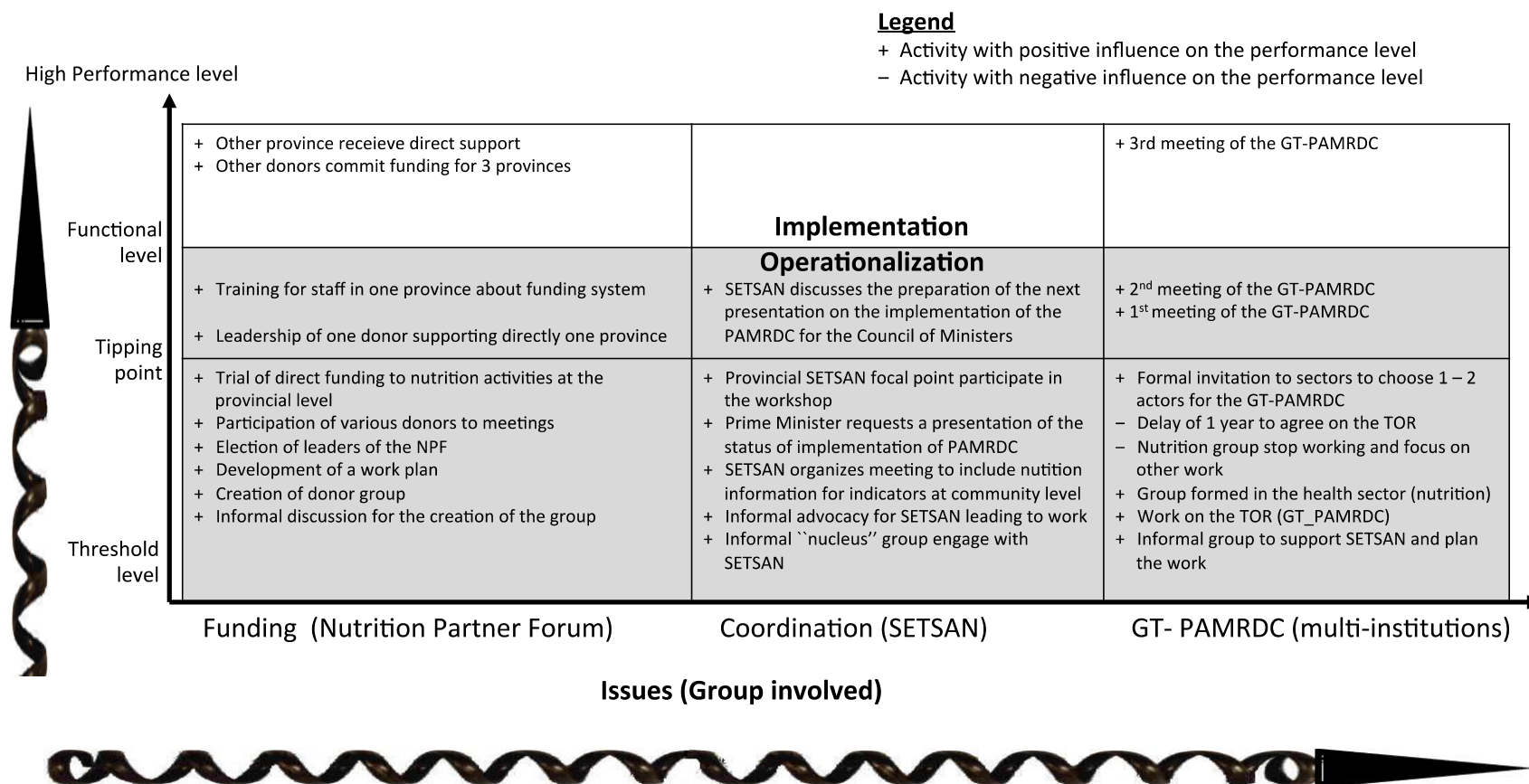
The operationalization of the PAMRDC and the parallel process for the individual interventions, especially at the provincial and district levels can/do occur simultaneously. In the PAMRDC, many actions were already implemented. Thus, there was a need to increase the coverage, to scale up those interventions. Regarding the PAMRDC, we can say that at the central

level, there was a limited involvement of the direct implementers in the discussion. Thus, the workshop was an opportunity to engage implementers in the process. After the workshop, the numerous messages received from some of them to thank the initiative and that they appreciated to better understand the PAMRDC; this testifies again, that the communication was lacking and any way to establish that communication and information-sharing would benefit the system.

The slow movement of the actions in the first year after the approval of the PAMRDC by the Council of Ministers was a period in which a small threshold level was beginning to be reached. Several groups were formed and several issues were addressed. The leadership of the MOH was certainly key to provide leadership for group formation and incentivize more actions at the central level. The development partners, and the donor group were also highly engaged. Groups began to organize themselves and were informal at the beginning, but then, most of them became more formal and recognized, but not all of them. As depicted in **figure 12**, slowly those groups began to increase activity and reach an increased level of internal organizing elements (work plan, participation eligibility). Groups began to reach a level of internal functionality at different moments. Each of the group (and between groups) had to initiate specific efforts, tools, instruments, and face uncertainty as to how they should do what they feel they had to do. Objectives, roles and responsibilities and the ways forward were unclear and emergent.

Appendix E presents some of the questioning different issues and the development of various innovations, through the application of a DE framework regarding the operationalization process. Chapter 5 presents the perspectives of the main actors involved regarding some of the various issues raised.

Figure 12: Operationalization of the PAMRDC



Importance of dialogue and deliberation

The emergence of patterns in the analytic memos that referred to the elements of a negotiation framework emphasizes the importance of dialogue, deliberation and decision-making processes; in fact, the work involved negotiating all the time. Addressing the questions in **Appendix E** was far from certain so we had to go by trial and error, and in an incremental manner, and discussing to decide the way to go. Decision-making processes are at the core of the policy process:

“Careful delimitation of the decision-making events in any policy process can enable observers, analysts, or participants to understand what is going on and where improvements might be possible.” (p.57)

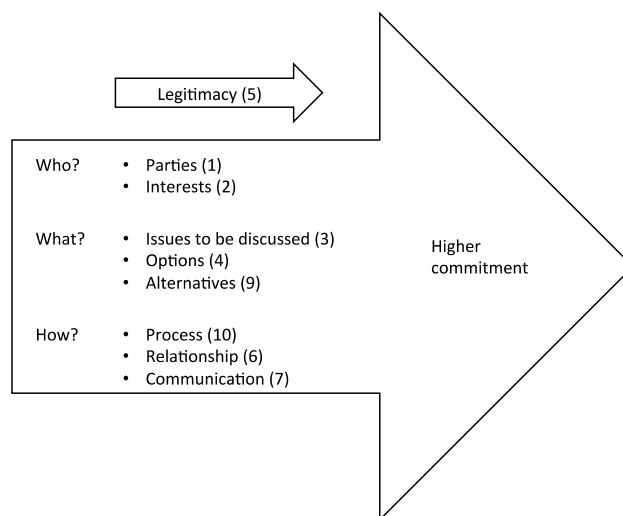
Although this dissertation did not focus specifically to the level of dialogue and decision-making, there was a need to explain some underpinning and argumentation to explain the emergence of these frameworks.

At the latest analytical stage of dissertation writing, a reflection that I could describe as “reflective introversion” came as a way to provide additional elements of the theory building that was emerging from this dissertation. In fact, the idea of looking more carefully at conflicts and disagreements during this experience stemmed from my realization of the relevance of the negotiation framework, especially elements related to legitimacy. I felt that major insight was important to further explore. My questioning was “why” those elements of negotiation process appeared to be core and emerging from this research. As I was trying to fill a gap in trying to explain the emerging elements of negotiation, a major awareness was gained from that reflection: this dissertation was leading to elements of a theory of engagement of multiple actors within a national system.

Practitioner reflection

My role in this context made me one of the few actors that had a high-level of crossing-over between groups, projects and scales, which created the opportunity to see patterns across those scales. This line of reflection led me to extract the simple questioning that I was constantly making, without ever acknowledging the linkages to the negotiation framework I had been trained with. The 10-element framework was implicit in my simple question: “How can I be helpful into the process?” In fact, I reformulated this into three sub-questions to illustrate the process I had followed with the 10-element illustrated in **figure 13**, without even having that awareness. Simply put, negotiation involves processes of dialogue, deliberation, and decision-making. When parties engage into negotiation, the process can gain legitimacy and ensuring that many considerations given attention. There seems to be a parallelism between “engaging actors into a negotiation process to reach agreement” and “engaging actors through various means (e.g. consultation process, active participation) to reach commitment.” In both circumstances, gaining legitimacy appears to lead to an increased or a higher commitment.

Figure 13: Framework of engagement to get commitment²²



²² The numbers in parenthesis refer to the 10 elements of the negotiation framework presented previously.

This certainly requires the existence of a number of conditions, but **figure 13** presents an additional tool that can be helpful to practitioners when aiming to address a challenging situation. This type of simple tool could be used with the strategic system thinking to help practitioners design a strategic process, especially through an engaging process to lead to commitment. We can also make a parallel to a higher level with the system, which emphasizes the importance of engaging a variety of actors in the system to increase the system-wide commitment. **Figure 13** presents a reformulation of the 10-element framework (and the 3 questions) that helps to understand theoretically, and can help practitioners to visualize the importance of paying attention to those elements. A presentation of the framework is presented below.

1. Who are involved and what are their interests?

Chapter 1 expressed some explicit interests of actors (parties) involved in this context but other are more hidden and implicit. In the situations in which I was engaged in this context, an element that appears to play a role in my experience was a pattern was legitimacy. We saw in chapter 3 that engagement was leading to gain or acquire a higher degree of legitimacy (of people or events). I had observed this pattern in my personal experience, which triggered that I observed a similar pattern in the actors we were trying to engage with different innovations. Afterwards, I made the exercise of examining instances in which there was the appearance of conflicts. I realized that the actors in those conflicts might have experienced a similar pattern of illegitimacy: a loss of their legitimacy for various reasons:

- Not able to deliver the work that someone in authority had request from you;
- Having good intention for carrying out a work, but being criticized based on the mandate of the institution you represent;
- Having someone in authority over you who had committed to something with which you did not agree and you do not think is justifiable by your institution, thus, bringing discomfort;
- Having someone developing the technical content of community materials but not being able to pleased all the demands and working with a difficult person;

- Having someone who worked on preparing an event and others disagreeing with part of it, and expressed criticism publicly through an escalation of electronic communications affecting relationships.

In those examples, the actors involved appear to have lost part of their legitimacy due to being in this situation that was questioning their own personal identity, skills and intentions. These situations may have led to internal struggles of being aware of a situation in which you did not agree and thus, shaking the whole value system. Other elements could also have influenced this pattern but it appears relevant to further explore.

In those above-mentioned situations, I was linked with many actors in the system, through meeting many of them for the workshop or other initiatives. This made me become comparable to a “superhub” [102] in systems concepts, in which I was the connection between many individuals and I could facilitate various things. A superhub is someone linked to many other actors in a system. Having these connections made me able to corroborate and link many things that they were telling me. More importantly for research, being a superhub while being engaged with multiple actors led me to have a whole network of internal practice stories that I could corroborate and retrieve during this analytical process.

In this context, I often felt like a messenger by giving news and update to people. The fact that the DE approach made me collect data from various actors in the system was contributing to myself becoming a “superhub” and developing some relationships that became handy later, to respond to the numerous urgencies that our work involved. The fact that I was engaged in many efforts and groups helped me gain legitimacy to be part of those various groups (e.g. legitimacy with technical partners through revising many documents; legitimacy with donors because I was funded by them; legitimacy with NGOs because having carried out several consultancies). Thus,

my own experience and link between engagement and feeling of legitimacy (or illegitimacy) in various circumstances triggered the emergence of an element of a theory of practice.

The emergent finding here is the parallel with negotiation process in which there is consultation before negotiation to try reaching agreement. From negotiation, we see that engaging people into a process involving dialogue, deliberation, decision-making and relationship building is the basis of negotiation in order to get agreement. The finding in this study is a parallelism in the following: “Engaging several actors through various strategies lead to an increased commitment. Developing those strategies for constructive engagement is a critical component of strategic capacity but one that has not been emphasized in the original formulation of the concept.

2. What are the issues that need to be discussed? What are some options? What are some alternatives to those options?

Those questions require listening from actors in this context to understand the main challenges and problems at stake. This is where the social relationship were critical to get to the core of the feeling that was experienced by these people. I received information in confidence at informal times, in between meetings, in a ride to a meeting, over a coffee or a meal, or even over email or telephone. I think this emphasizes that this was happening to me, but it happens in the whole national system and staff and workers are sometimes affected by how these conversations proceed and end up. Those exchanges need to be developed, and this is not just about personal life, because the events above-mentioned in which several actors experienced challenges happened in the professional life. If we are able to manage optimal processes that respect some principles, be they decision-making processes or the crafting of some higher level processes in our hierarchy of processes, then, the process will gain legitimacy and we are more likely to reach

a higher and deeper commitment, as higher energy will be generated to attain a tipping point, a momentum.

3. How can a process be developed to improve the situation?

In the example presented above, several things were done in order to improve the situation. Most of the time, the process presented similar characteristics and steps. I was meeting the different actors separately to hear their version of the story. When misunderstandings were part of the problem, then a useful process was to try clarifying those misunderstandings and create a space where they could be discussed in a productive manner, that is, out of formal context and authority. This process (figure 4) is only a simple grouping of the elements of the negotiation framework to also picture some relationship between engagement and commitment, and raise awareness other elements that appear important.

Finally, the reflection above expresses why the negotiation framework was a useful theoretical lens to try to draw even more insights from this practical case study experience in Mozambique.

“Careful delimitation of the decision-making events in any policy process can enable
By coming back to this negotiation framework, this highlights an important lesson from this case study. Dialogue and decisions are the building blocks of any processes that we seek to examine or influence. If we refer to the framework, when we seek to develop strategies we need not only respect some principles for good decision-making, but also for higher levels of the hierarchy processes. As we discussed in the previous chapter, those principles for good decision-making also apply at a higher hierarchical level. We also discussed the importance of relationships, which are fundamental elements of the building of social capital and social networks that can help addressing gaps and bottlenecks in a system. There is a need to craft optimal strategies and decision-making processes, as well as strategies for ensuring optimal

higher-level processes and relationships that can become ‘catalysts for change.’ This leads to emphasize that connections between individuals can be a major driving force for progress in any social system.

In the methodology chapter, I characterized my role as one of a developmental facilitator who tried to facilitate many things: relationship-building, communication, negotiation, work on technical content, development of strategies, etc. By taking again the analogy with a system, where there are problems and weaknesses, something need to be done in order to identify the problems and arrange for the repairs. The facilitator can be this type of person. However, it is critical to understand the system that we seek to influence and repair. This is a knowledge that I began to acquire from being engaged in various projects involving a large number of actors in the system. Regarding the workshop, we had built the networks and social capital that we could rely on to get quick feedback from others in the system that possessed the necessary contextual and tacit knowledge. We acted as a super-hub as depicted in social network diagrams.

CONCLUSION

Finally, this leads me to propose that the operationalization of an action plan could usefully be conceptualized according to **figure 12**: of a broad diversity of issues that need to be addressed by various groups that slowly develop and push the various issues forward, trying to assess the challenges and problems and adapt by developing strategies, using concepts or illustrations from strategic system thinking as a vital component of strategic capacity. Thus, framing operationalization as a learning process in which reflection time is a central feature is critical to assess current actions and develop the next ones. This is in contrast to developing and following a more rigid blueprint. Involving many actors in a social network to act as catalyst is an important part of the process, which can advance the agenda if they are in alignment or delay it if they are not, thereby underscoring the importance of leadership and strategic capacity within the network. The informal process (and groups) can and should participate in the same policy functions as the formal ones but they have complementary strengths. The formal ones provide legitimacy of issues, events and documents and help gain momentum, while the informal groups and processes can act more quickly and respond and adapt to the constantly emergent realities. Thus, at its core, operationalization is not about a master plan, funding, coordination, or the different formal functions of the policy process. Operationalization is about “making something operational” and enabling all those issues and groups to attain a functional level to create momentum and to lead to a higher level of performance of the system. To do that, it is useful to have a medium to long-term vision while remaining flexible and adaptive in the short-term and even on a day-to-day basis. This can benefit from some of the lessons in this dissertation because the complexity that we are dealing with stems from multiple sources and is a constant and dynamic phenomenon. Thus, incrementalism is a virtue in this context and ideally involves an

interaction between social networks of engaged people informally and informal structures and mechanisms.

“It may be worth emphasizing that theory is sometimes of extremely limited helpfulness in policy-making for at least two rather different reasons. It is greedy for facts; it can be constructed only through a great collection of observations. And it is typically insufficiently precise for application to a policy process that moves through small changes.” [101]

This chapter illustrated elements of a change process in which many actors becoming engaged in a national system in Mozambique helped to make progress in reaching a system-wide commitment. Finally, the multiple experiences that are occurring under the Scaling Up Nutrition movement in over fifty countries in the developing world offers rich opportunities to learn from those experiences as well as enhance them through action research of the type described here. There is a great deal more to learn about working effectively within complex adaptive systems. This dissertation aims to provide a proof of concept that a research agenda along these lines has great promise for generating deeper understandings and more effective practice.

Appendix E: Application of DE to the operationalization process (development of various innovations)

Issues	Developmental questions
OPERATIONALIZATION Process of operationalization	<ul style="list-style-type: none"> • How will the operationalization be carried out? • Is a specific operationalization guide necessary to facilitate the different processes? <ul style="list-style-type: none"> ○ If so, what should be included in such a guide? How much directive or prescriptive should this guide be? ○ What should be the process of writing such a guide? ○ Who has the authority of deciding of its content? ○ How should disagreements over the form and content of the guide be handled? ○ How can we optimize the process of writing such a guide? How to be more effective and efficient? • If there is no guide, how will the lower administrative levels know what they have to do regarding the PAMRDC? Do we have other alternative?
Institutional memory (documentation)	<ul style="list-style-type: none"> • Would there be benefit in documenting the whole process of operationalization? If so, how would this be done? Who should be in charge of doing it?
PLANNING at different levels Capacity and the development of operational plans Alignment of plans Flexibility of the implementation	<ul style="list-style-type: none"> • Considering the decentralized planning, how will <u>this??</u> be carried out practically? (e.g. governor needs to be involved) • How can we ensure that the provincial and district plans are aligned with the central/national priority? (guidance) • How can the central level support the provinces in establishing their priorities and ensure those are somewhat aligned with the national ones? • How can planning capacity be strengthened at the provincial level? At the district level? (capacity) • What process (including decision-making) should be carried out for the development of the provincial plans? • Should the process have been done at the reverse (provincial plans before national plan)? • How to ensure, during the planning process, leaving enough flexibility on the “how” of the implementation?
ADVOCACY to politicians	<ul style="list-style-type: none"> • Will increasing awareness about the problem of chronic undernutrition and potential solutions among politicians leads to an increased political attention and commitment? If this assumption holds true, how can our leaders be educated and their awareness increased to get political commitment? • What are the leaders that we should try to influence? How? Any other actions? • How to get the Prime Minister on board to take on the leadership of the implementation of the PAMRDC? • Can concrete results convince politicians and be an advocacy instrument for a certain course of action? • How can priorities with the potential of influencing nutrition be defined and owned by politicians and decisionmakers on the release of the funds and on the decentralization?
IMPLEMENTATION of interventions	<ul style="list-style-type: none"> • What do we actually mean by implementation of interventions? • Can the institution (SETSAN) in charge of coordination implement interventions? What type of interventions? • Is an advocacy campaign considered implementing an intervention (distinguish advocacy campaign for politicians and

Understanding of meanings / terms	decision-makers from advocacy campaign for the population)?
Development of structural arrangements for COORDINATION Definition and meaning of coordination in terms of structures, mechanisms and functions	<ul style="list-style-type: none"> • What does coordination mean? • Concretely, what are some specific functions for an institution in charge of coordination? • What seems to be the optimal structures and mechanisms for coordination in this context? How can we develop them? What are the different steps and processes involved? • What are the expectations of the main actors involved from an institution in charge of coordination? • What is the current status: are the expectations met or far from being met? • How are we coordinating? • Use of formal or informal communication channels (strategy?) • What is needed/missing in this context for the recognition of leadership from the institution in charge of coordination? • Can an institution in charge of coordination implement interventions?
Structural arrangements and linkages between groups	<ul style="list-style-type: none"> • Should the government define formal structural arrangement for coordination? At what levels? Should there be focal point persons in each sector? How would those focus points be selected? Could the development of selection criteria help choose the appropriate workers? • How should the reporting be done between the different levels? Through provincial SETSAN to central SETSAN? Through the different sectors to SETSAN? Other ways? • What are the linkages between the different groups and initiatives? What are the linkages between the different sectors? • How is communication organized and formalized? • What is needed/missing for the recognition of leadership from the institution in charge of coordination? • Are groups equally opened to participation in this context? How are people invited to participate and be part of the groups? Are there selection criteria? • Can participants of the groups attend and participate in all the meetings? If not, what are the exclusion circumstances? (ex.: NGOs cannot attend meeting of the donors' groups when funding is discussed).
Other multisectoral initiatives	<ul style="list-style-type: none"> • What are the roles of other initiatives like the REACH approach and the SUN movement? • What are the linkages between the PAMRDC and the other multisectoral initiatives to address undernutrition, food security and hunger? • Should there be more linkages? If so, how to build or strengthen those linkages? • How will those initiatives support, complement or be attached to the PAMRDC?
Importance of individuals and development of skills for COORDINATION	<ul style="list-style-type: none"> • What are we looking for when we participate in forums/groups for coordination? Are actors aware of their personal role? • How can individuals be mobilized and help carry out an optimal coordination? • How can we incentivize the attendance of people to meetings? How can we increase the dynamism of several working groups?

	<ul style="list-style-type: none"> • How can we improve the follow-up from one meeting to the next one? • Are there strategic actions that can compensate for the lack of structures for coordination? • What are the specific skills to carry out an optimal coordination other than communication, facilitation, negotiation and conflict management? • How are divergences of opinions or conflicts handled? • How can relationship and trust between people improved? • How can specific skills be improved among actors playing key roles? • How can safe space be fostered so people can talk with honesty on what matters in order to move forward?
Considerations regarding FUNDING and DONORS Communication Funding priorities and funding lines Complementarity in funding Conditionality	<ul style="list-style-type: none"> • Should the communication channels be formalized between the donors' group and the government? Between donors' group and other groups? If so, how should it be formalized? • How can communication be improved between donors and different parts of government? • How can priorities be established? By who? • How can funding lines for activities in specific area/sector (e.g. nutrition) be established? Through direct funding lines from central level to the provinces and districts? Can nutrition activities be funded directly even if it is within an intervention package?
FUNDING and alignment	<ul style="list-style-type: none"> • How can alignment and complementarity in donors' funding be increased? • Can donors negotiate the priorities established by their own government to adapt to priorities of the recipient country? • Should information be collected on what proportion of the plan is already financed? Who should have this responsibility? How can this be carried out? Would donors be willing to provide all that information? • Would a common fund or common platform from donors an interesting and viable option? Could there be common funding criteria? • How can we ensure ownership and sustainability in the plan through having the government commit to fund part of the plan? • Should funding from donors be contingent to the development of operational plans? What should come first, the operational plans from the different sectors or the funding commitment from donors?
FUNDING plan	<ul style="list-style-type: none"> • Is there a funding plan of the PAMRDC? • How can we know what is funded yet? What need to be fund?

Appendix F: Additional information on data analysis based on a grounded theory approach (chapters 3 and 4)

This appendix presents a summary of how the data analysis using a grounded theory approach was conducted and led to findings presented in chapters 3 and 4. The description is not intended to be exhaustive, but rather to present several techniques and procedures used as well as trigger points.

Guidance on using a grounded theory approach was based primarily on Strauss and Corbin (1998) [103]; most of the textbook had been read before the experience in Mozambique. However, considering the emergent research questions and design, the decision to use this analytical approach was not decided at the onset. Instead, it served as another tool in my toolbox, similar to the Q methodology, which was decided upon when it became clear that the methodology would allow for a deeper understanding of the context by considering data that could be collected and/or data already collected. This point is important when undertaking this type of study: the researcher-practitioner will benefit from being familiar with numerous tools, techniques, approaches, and procedures. Such a toolbox can be useful for both research and practice. This also aligns with the DE approach, which uses various data gathering and analysis tools to generate different insights and develop various types of feedback.

The approach used for this study was more closely related to the one described by Strauss:

“Most important, because our approach to theory building is one **of emergence**, we believe that unless the researcher is building on or continuing with his or her own previous studies, the researcher will not be able to enter into the project with a set of pre-established concepts or with a well-structured design. Rather, the design, like the concepts, must be allowed to **emerge** during the research process. As concepts and relationships emerge from data through qualitative analysis, the researcher can use the information to decide where and how to go about gathering additional data that will further evolution of the theory.” ([103], p.33, emphasis in the original text)

This description illustrates somewhat the approach used; however, its use in this study involved some particular techniques that are elaborated below.

Application of Grounded Theory in This Study

This DE research project has certain features that affected how grounded theory was applied. First, although preliminary research questions were developed before fully engaging in Mozambique, questions continued to evolve due to the highly emergent design. This brought about the advantages stemming from direct participation, but created challenges such as a difficulty to stay focused on the research questions. Second, playing the role of a participant at the core of the work brought the advantage of contextual knowledge; however, such a close involvement can be perceived as a bias, or runs the risk of being perceived as a researcher who becomes “native.” Third, the intensity of the work precluded intensive analysis in the field and precluded the collection of additional data based on emergent patterns. This presented limitations during the post-field work analysis phase, although the analytical memos written during fieldwork proved to be quite valuable. Despite these limitations, the techniques and procedures that characterize grounded theory were helpful to make sense of the data and helped reveal patterns in the findings. In particular, there was a strong ability to examine interactions across multiple units of analysis or scales and the findings also open avenues to be further explored in future research.

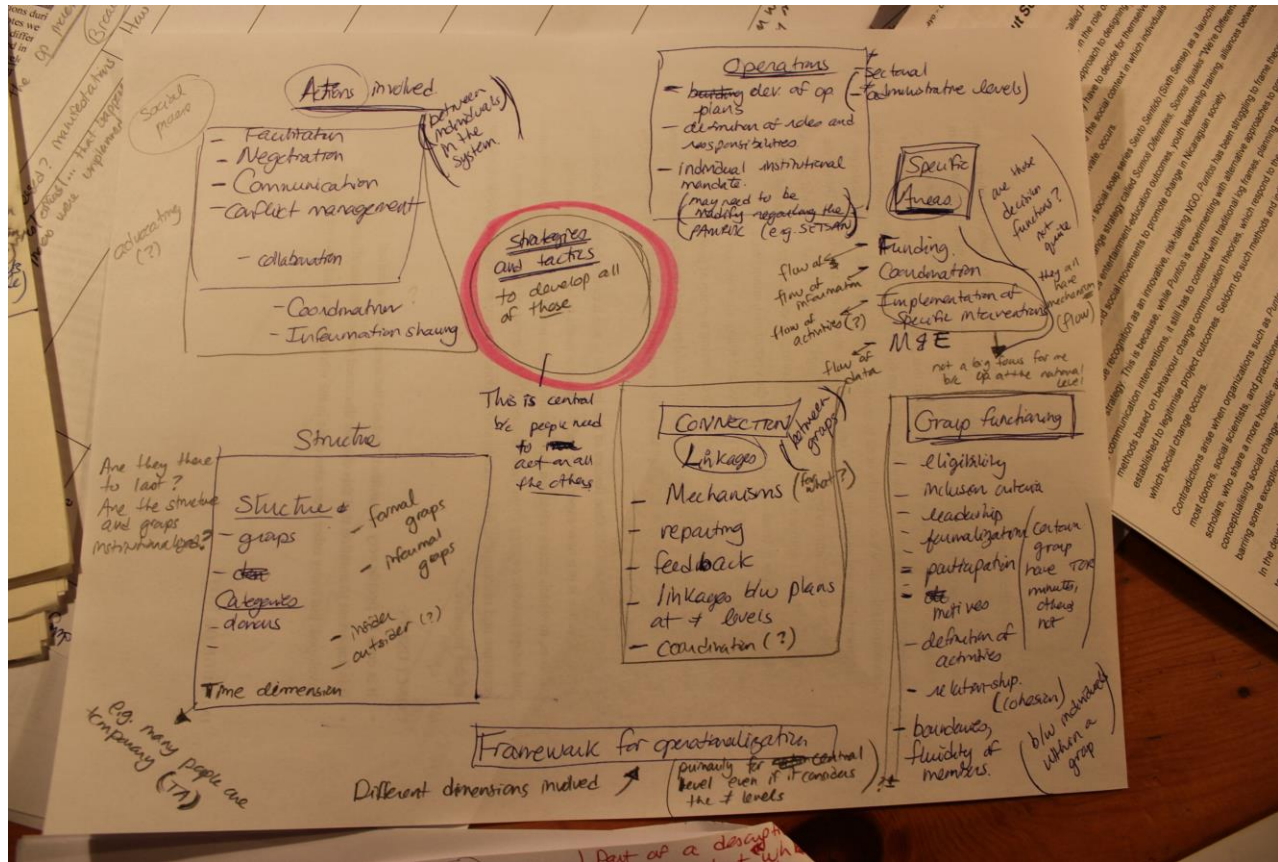
Techniques and procedures for grounded theory and triggering points

This section elaborates on how some insights were gained through the use of techniques aligned with grounded theory, which explains why conceptual pieces were revealed in the latest analytical stage; some triggering points also are shared.

“Underlying this approach to qualitative research is the assumption that all the concepts pertaining to a given phenomenon have not yet been identified, at least not in the

population or place or if so, then the relationships between the concepts are poorly understood or conceptually underdeveloped.” [103] (p.40)

Multiple schemas and diagrams were developed to visualize how different concepts in the data related to each other. The following picture highlights how the use of strategies was a core concept included at the center because the work in Mozambique involved trying to address many challenges related to other concepts or issues:



One challenge with this category during data analysis was that considering that the study used intentional strategies (and involved strategic capacity) to achieve certain outcomes, the category of “strategy” was determined before looking at those strategies at a more tactical level. This prompted a questioning of deductive vs. inductive analytical process. The category was not emerging from the description of the different dimensions within this category. Nonetheless, when the objectives of the various strategies related to the workshop were coded, assembled and

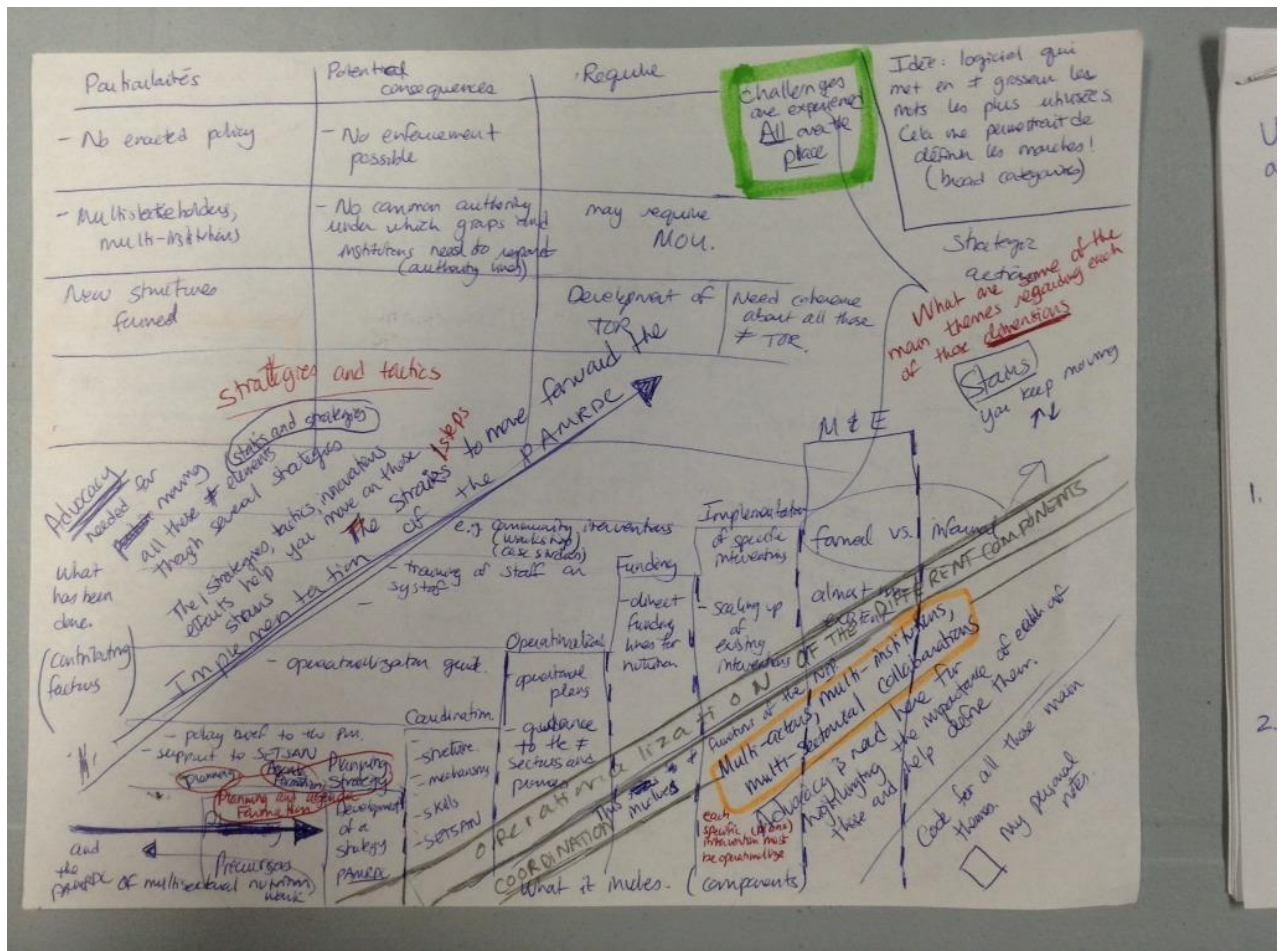
the strategic dimensions emerged, it further defined this category. Thus, the data analysis can be described as a mixture of both analytical approaches, moving from the raw data to induce categories, but also from a more deductive way while describing further what the strategies were about.

Conceptual ordering

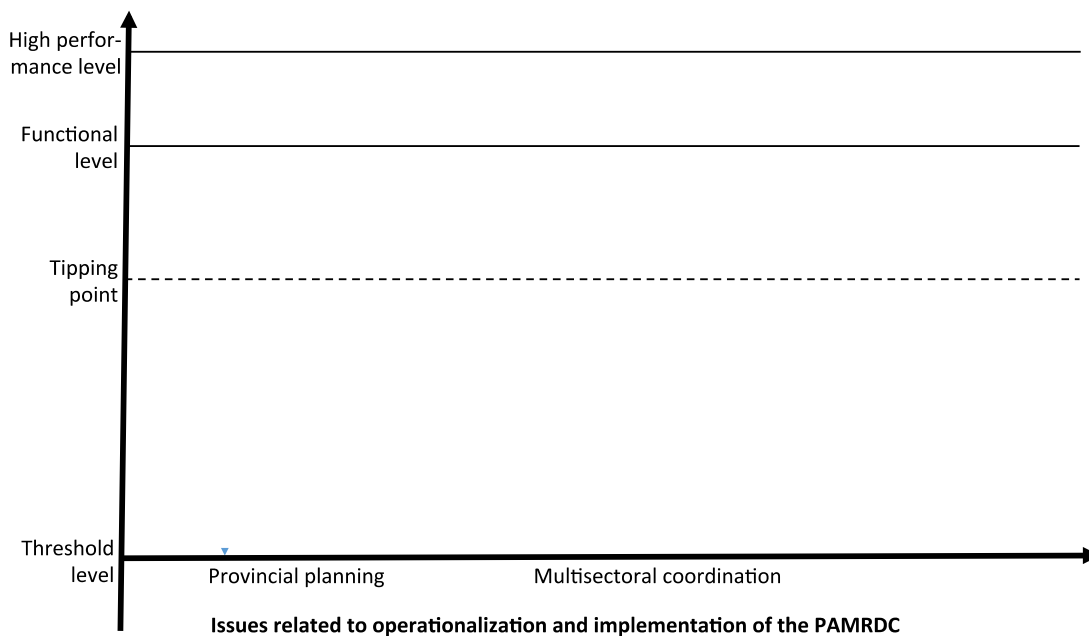
Part of the analytical work represented the “conceptual ordering” presented by Strauss, that refers to:

“The organization of data into discrete categories (and sometimes rating) according to their properties and dimensions and then using description to elucidate those categories.” [103] (p.19)

When I tried to build relationships between concepts, it was difficult because they were numerous and the categories were never clearly defined or characterized. What appeared the most useful was when I instead considered how each concept (category) evolved over time, as shown below, like stairs in which we would move up to different levels of performance.



However, there were some challenges about the stairs analogy because the work of operationalization did not involve moving from one issue leading to a higher level of another issue (like moving up the stairs). Instead, it involved moving up with each concept or issue. This led to an X and Y-axis in which each concept could move up to attain a certain level of functionality.



After this awareness came, I went back to some of the latest diagrams I had drawn with the various concepts. On a table, I spread out selected and separated parts of diagrams that appeared more about the strategies and the development of those concepts and others that were more related to operationalization. This was a turning point for those frameworks. I realized that some diagrams included distinct elements of strategic capacity and operationalization together. I separated them, leading to the framework and conceptualization of operationalization as being two entities, and as presented in chapter 4. I was finally able to draw them on paper. This is also when I realized that reaching a certain level of awareness and insights in my understanding was a triggering moment, one of those “aha” moments, leading to more and more insights. This was a prime illustration of actions that occurred in Mozambique concerning the work on different issues. Indeed, we often worked very hard for no result, but then, with the accumulation of actions at a moment, one action would help in reaching a tipping point that lead to something comparable to the attainment of a functional level. This tipping point was an important point to

add to the visualization of operationalization and I could see a value of envisioning and trying to create those tipping points.

Systematic comparison of two or more phenomena

The memoing and the drawing of multiple schemas to make sense of the data were important features of data analysis, which led to a certain “conceptual ordering” among the concepts emerging from the data. Another tool was the use of comparisons, especially a type referred to as “comparison of incident to incident,” which is when we look for similarities and differences among properties of concepts to classify them [103] (p.94). “Each incident is compared to other incidents at the property or dimensional level for similarities and differences and is grouped or placed into a category” [103] (p.79). I used this I was experiencing a kind of analytical block, as this technique is perceived as being especially helpful “to get past the analytical blinders that often obstruct our view of what is in the data” [103] (p.96). Another “aha” moment occurred when having a deep introspective reflection. This was, prompted by re-reading many analytical memos and other documents (emails) and allowed me to extract patterns that provided additional insights. Patterns identified in my own personal experience in this context surprisingly triggered the awareness of some other patterns in the findings. The first awareness came from the new recognition of a long-time feeling of illegitimacy, of using the “I” while describing parts of the experience. I realized that I tried to erase myself from the story, partly to address potential biases that I could be accused of while being so close to the object under study. Legitimacy appeared to be an important concept from my own experience, and I began to see how it was playing out in the experience in Mozambique as well. The following figure was done to further explore this new line of insights.

Patterns in the findings

Legitimacy (tipping point)
↓

Engagement	Strategies and tactics	Outcomes
Engaging myself	Through accepting the “I”, and that I was part of the story	and see the emerging patterns in the data
1. Engaging some actors at the central level	Through various small steps	Signature of a declaration of commitment
2. Engaging more actors at the central level	Through various strategies and steps (landscape analysis...)	PAMRDC
3. Engaging provincial actors	National workshop (presentation of priorities by the national director of health in front of PM)	Multisectoral provincial planning

Incrementalism

The three main categories were: 1) engaging; 2) strategies and tactics; and 3) outcomes. The outcomes appeared to be the tipping points of becoming official or receiving legitimacy in the system, for example, with formal documents or the presence of high-level actors at an event.

One challenge was that I did not explore systematically all those other incident cases in which legitimacy appeared to potentially be a very important and relevant concept as a tipping point. This is because the patterns emerged late in the analytical phase. However, this study was bringing an in-depth account of one particular incident: the workshop. Despite this limitation, the depth of the analysis of this workshop that allowed for the developing of the framework for strategic system thinking appeared to bring a promising element to be used regarding knowledge on how to develop effective strategies.

Microscopic examination of the data

Another tool called “microscopic examination of the data” can help researchers to examine the specifics of data, allowing them to speak [103] (p.70). This tool was the first one used with parts of the data: the transcripts from semi-structured interviews with participants in

the whole national system about their definition of coordination, their account of challenges and how coordination was manifesting in their work. Coordination was the first focus on this study; however, when awareness came that coordination was a transversal category that only represented a small part of the broader concept of operationalization of the PAMRDC, then, my efforts slightly diverted. Nonetheless, this type of examination was used as one more coding tool with parts of the data. One additional relevant point in this study is that the point of saturation that is generally reached during data analysis is difficult to reach considering the scope of the study and the numerous concepts involved. Nonetheless, there is an important value of unpacking those concepts, and this was a strength of this study: comprehensiveness rather than high selectivity.

Decision to use complexity concepts and system thinking

One triggering point also deserves attention, which occurred when the decision to use complexity concepts and system thinking for data analysis was made. The early phase of the analytical process involved the writing of a comprehensive report that was shared with all workshop participants. The report presented a description of the pre-workshop processes, the workshop itself, and the post-workshop phase to assess potential workshop outcomes. Discussion with my advisor and the sharing of an early draft of the workshop chapter revealed a significant potential of this workshop to produce systemic change when coding parts of the workshop chapter. This produced a shift in thinking and a decision to use complexity concepts and system thinking to discuss the potential of such a different workshop while examining its development and the outcomes produced. This opened up possibilities and creativity to move beyond more conventional thinking, at least in nutrition. The insights gained from applying those new concepts were considerable and as more insights were gained, many more arose. This point is important

because it was an element that triggered what had happened in Mozambique. Despite a slow pace at the beginning of the work, once a momentum was reached, an increase in insights was apparent. When the lenses of system thinking, complexity concepts and strategic capacity were used to re-explore the data from this experience (started before, but it accentuated during that period), multiple diagrams and schemas were developed to try and link the different concepts together. This was illustrated in this section.

CHAPTER 5: USING THE Q METHODOLOGY TO INVESTIGATE THE PERSPECTIVES OF KEY NATIONAL STAKEHOLDERS ON CHALLENGES AND STRATEGIES

The previous chapter documented the multi-faceted challenges and complexity involved in operationalizing the multisectoral PAMRDC in Mozambique and identified some strategies that may help improve that process in Mozambique and other countries. The analysis underlying that chapter was conducted retrospectively, with the benefit of many months of reflection, iterative and deep immersion in varied sources of data and consulting the published literature. As such, it represents a reconstruction of a complex reality viewed from a distance.

While this approach has considerable value for “making sense of reality” in order to construct theory and assist future practitioners, it does not reflect the reality as the Mozambican stakeholders experienced and perceived it in the moment. Instead my extensive involvement in that process repeatedly revealed a profound lack of clarity and agreement concerning the meaning, purpose and means for the most basic of tasks facing this policy community: the operationalization and coordination of the PAMRDC. As such, my post-hoc reconstruction of the operationalization process would be incomplete without also exploring the subjective dimension of this complex social, bureaucratic and political process. Indeed, within the policy sciences framework that guides this dissertation, “participants and their perspectives” are two of the most important influences on the policy process [33].

The objective of this research component was to investigate the perspectives of key national stakeholders on the main issues regarding the operationalization and the coordination of the PAMRDC, and related challenges and strategies to address them. This was achieved through the use of Q methodology as described below. This component of the dissertation employs a case study design [73] using concurrent mixed methods [75] with the unit of analysis being the

perspective of key stakeholders on different aspects of the operationalization and coordination of the multisectoral action plan.

METHODS

Q Methodology

Q methodology is a systematic and rigorous methodology that allows researchers to examine human subjectivity, that is, individuals' points of view²³ on a particular topic [104]. Although Q methodology is often considered a quantitative method because of the statistical procedures involved (factor analysis) [105], it actually is a hybrid or mixed-method that combines qualitative and quantitative dimensions [106] and brings the strengths of both methods [107]. Some authors have even labeled it a “qualiquantological” method [108]. Its origin goes back to 1935 when William Stephenson, a British psychologist-physicist and student of Charles Spearman, who pioneered factor analysis, proposed the technique [109] that was further developed in one of his major manuscripts [110] and led to what is currently known as the Q methodology.

Typically, under a condition of instruction, a sample of participants (P set) carry out a rank-ordering exercise (Q sorting) of a number of subjective statements (Q sample) on a Likert scale going from agree to disagree. Practically, it is most often done with a pack of cards containing the statements and the participants place them in a matrix with a forced quasi-normal distribution [111]. The participants' responses are then correlated and factor analyzed to identify sub-groups of participants who sorted the statements similarly and that represent different viewpoints. Q methodology involves examining correlations between a sample of persons across

²³ In this paper, the terms “perspectives,” “viewpoints,” “points of view” and “views” are all used interchangeably to refer to the different factors that were identified through the use of the Q methodology.

variables (Q sorts) in contrast to the more conventional R methodology that involves investigating correlations between variables (traits) across a sample of persons. In other words, the Q methodology identifies viewpoints among people rather than assessing the frequency or distribution of a variable in a population. Consequently, Q methodology generally uses a small number of participants, and even a deeper analysis of one single person is possible [105].

Q methodology allows the study of attitudes, opinions and perspectives of individuals, which render it valuable and applicable to a virtually unlimited number of topics and disciplines. It has been used originally to study topics in psychology and social sciences [112], but many authors have introduced this methodology and made the case to use it for research in various disciplines such as nursing [113], health education [114], environmental issues [115], commercial audience [116], human geography [117] to name only a few. The readers who want to get acquainted to the Q methodology can refer to the numerous introductions to the Q methodology in different disciplines as well as to a number of classic works referenced in the present article with a special mention to the simplified introduction “A Primer on Q Methodology” by Steven B. Brown [118].

Although still uncommon in the field of nutrition, the Q methodology has nonetheless been used to investigate the views of diverse groups of people regarding nutritional problems: for example, policymaker’s views regarding non-communicable diseases in Nigeria [119], childhood obesity in the US Senate [120], childhood obesity in the US population [121, 122] and among Mexican-Americans [123] and food security in a US community [122, 124]. Q methodology has also been employed to explore stakeholders’ views on the value of linking agriculture and nutrition [125] and in clinical settings to identify types of weight control self-efficacy beliefs in obese women and link them to outcomes post-intervention [126]. Thus, Q methodology can be

used for a multitude of topic, but it is especially relevant to explore “highly complex and socially contested concepts and subject matters” by revealing the point of view of a group of participants involved [127]. To my knowledge, Q methodology has never been applied to investigate the views of national stakeholders in a context of the implementation of a multisectoral action plan to reduce chronic undernutrition in developing countries such as in the present study. Although this highly complex topic is increasingly attracting global attention, the understanding of the concepts of operationalization and coordination is limited, as is the awareness of the strategies to address the numerous underlying challenges, which make a Q study very relevant in such context.

Additionally, Q methodology presents five distinctive features that make it attractive and appropriate for the present study. First, it allows for identifying the diversity of viewpoints among subgroups of people, rather than producing an average or aggregate view as with conventional surveys. In other words, Q methodology goes further in depth than simply assessing the frequency of an opinion such as with opinion polls. This depth leads to a second feature of allowing for unexpected findings to be discovered because predictions are much more difficult than with survey data. Third, also with survey data that use different scales (e.g.: Likert scales, semantic differential), means can be influenced by participants not taking the task seriously and deliberately answering at random. With Q methodology, those cases would not correlate with the discovered factors, leaving the findings unbiased. Fourth, it allows for identifying areas of convergence and areas of divergence between the factors identified, that is between people with different views. This opens up the possibility of tailoring interventions to build upon commonalities and/or address divergent opinions. Finally, Q methodology does not impose meanings *a priori* as Watts and Stenner (2005) pointed out: participants “decide what is

‘meaningful’ and hence what does (and what does not) have value and significance *from their perspectives* [emphasis in the original document]” [112] (p.74).

Data collection

The use of Q methodology involved five phases, sometimes overlapping, for the data collection of the present study. Those phases are briefly described below: 1) selection of study participants (P set); 2) development of the instrument (Q sample); 3) rank-ordering of the statements (Q sorting); 4) semi-structured interviews (post Q sorting); and 5) short survey. The interviews and Q sorting were carried out between April 6th and 30th 2012 and preliminary analysis was presented to several study participants on May 4th 2012 during a meeting of the GT-PAMRDC. No compensation was offered for participation in the study.

1) Selection of study participants (P set)

A purposive stakeholder sampling [128] led to the sampling of 25 stakeholders who had been actively involved in at least one of the three coordination groups at the central/national level primarily for the implementation of the PAMRDC in Mozambique: GT-PAMRDC, NPF, and nucleus group. These 25 people were identified through knowledge generated by my direct involvement in most of the meetings of these groups between April 2011 and May 2012, and reading of documents looking at the actors involved. The list of participants identified through these methods was presented to the majority of those on the list, to identify yet others they believed should be included. This process confirmed that I had identified the relevant stakeholder list and the 25 individuals identified in this way became the targeted P sample. To each participant, the study was introduced through face-to-face informal discussions. A formal invitation was sent afterwards to explain the objective of the study.

2) Development of the instrument (Q sample)

During a 10-month period, I developed a strong understanding of the range of issues related to the operationalization and coordination of this multisectoral action plan.²⁴ Over 150 statements derived from multiple sources (policy and program documents, personal notes from observations and participation in meetings, journal articles on the topic of study, informal discussions and electronic communications) allowed for the development of a rich concourse that represents the ‘flow of communicability’ regarding the topic of study [118] (p.94). Then, a subset of 54 subjective statements was drawn to constitute the Q sample that is found in **Appendix G**. Statements were sometimes taken literally from documents or interviews and other times merged or slightly reformulated because of theoretical and practical interest. The statements were randomly numbered, but several were numbered in continuity to ensure that study participants would make the distinction and the conscious choice between those items. For example, a total of 12 potential functions for SETSAN were included in the Q sample and participants were asked to rank each of them according to their opinion if *SETSAN was currently capable of playing* that function. The same functions were also included regarding SETSAN’s capacity, if participants thought *SETSAN should play* each of those functions. Additional statements related to political authorities (3) and skills (3) were also numbered in continuity. Several broad categories judged relevant to the study context were used: enabling environment for nutrition interventions (global, national, local); structural institutional factors; capacity of human resources; funding; and strategies, tactics and priorities. The categories were not mutually exclusive and the statements

²⁴ When I developed the concourse for this study, I originally thought that it was primarily focusing on the challenges, strategies and range of issues related to coordination. This thought was based on preliminary work carried out with people in this policy community, who referred to it as the coordination challenges. In the course of the analysis, I realized that I had mistakenly thought this Q study was primarily about coordination; however, the concourse, which mainly drew upon issues raised in this policy community, appeared to be built on the broader concept of operationalization of this multisectoral action plan that included the development of the coordination. Therefore, this Q study rather regarded the challenges, strategies and broad range of issues related to the operationalization and coordination of the PAMRDC.

rarely fell into only one of those categories. Therefore, the categories were simply used as a checklist to ensure the inclusion of statements regarding each of them. In addition, the decision was made to not oversimplify the statements in order to maintain the complexity inherent to the topic of operationalization and coordination of a multisectoral strategy. The Q sample was pilot-tested through the Q sorting by myself and one member of this policy community to ensure a balance of statements (that people could agree or disagree with); only minor changes were necessary.

3) Rank-ordering of the statements (Q sorting)

With a typical Q sorting procedure, participants are presented with a set of statements (Q sample) that they rank based on their views regarding different dimensions and issues of operationalization and coordination (including challenges and strategies) in the form of a pack of numbered cards (one statement per card). Prior to each Q sorting, I gave oral instructions to explain the exercise. Participants were then asked to assign each statement a ranking in a matrix having a quasi-normal distribution and along a continuum ranging from fully disagree (-3) to fully agree (+3) [118]. The Q sample for the Q sorting exercise was available in both English and Portuguese languages. **Figure 14** presents this matrix with the Q sort of one participant for illustrative purpose. For example, this participant strongly agreed with the statements #1, #5 and #14. This figure also shows that there were a limited number of statements that could be assigned to each ranking position; participants could only strongly agree and strongly disagree with three statements each. Throughout the sorting, participants were also encouraged to add any comments they had during the exercise to a score sheet, which was then discussed in the subsequent interview. The Q sorts represent a subjective expression of each participant on the topic of operationalization and coordination of a multisectoral strategy.

Figure 14: Q sort of one participant

-3	-2	-1	0	1	2	3
42	19	38	17	30	4	1
48	35	8	20	13	6	5
51	36	43	22	16	7	14
	3	40	47	21	9	
	41	25	2	23	10	
	37	26	44	24	15	
	12	31	45	27	18	
		54	52	53		
		29	28	32		
		11	46	49		
		34	50	33		
			39			

Legend

-3: strongly disagree

-2: disagree

-1: disagree a little

0: neither agree nor disagree

1: agree a little

2: agree

3: strongly agree

4) Semi-structured interviews (post Q sorting)

A semi-structured interview followed the Q sorting exercise. The interview guide had 2 sections that included a total of 17 questions, as presented in **Appendix H**. The first section included six questions about the Q sorting exercise to better understand how participants had interpreted several statements and why they had sorted them the way they did, especially the ones at the two extremes. Participants were also asked their general impressions of the exercise, suggestions on any additional issues they would have added in order to cover in-depth the operationalization and coordination in their context, and comments on any other statements or

anything else related to the topic of study. The analysis of those questions helped clarify the viewpoints of some participants. The second section aimed to investigate participants' perspectives on several aspects regarding the coordination of the PAMRDC. Questions were asked on background information of the multisectoral work (3), coordination (2), achievement (1) and expectations on next steps for the implementation of the PAMRDC (4). Interviews were carried out in the preferred language of participants, including Portuguese, English and French; they lasted about 40 minutes on average (ranging from 25 to 56 minutes).

5) Short survey

After participants had sorted the Q statements, they were asked to fill out a short survey. The additional variables collected were used to depict the profiles of the study participants including their personal assessment of the intensity/frequency of their involvement regarding the PAMRDC.

DATA ANALYSIS

Qualitative and quantitative data analyses were performed. On the one hand, the quantitative data consisting of the Q sort for each participant were analyzed with the use of the PQ Method statistical software, version 2.20 [129]. All Q sorts were entered into the software and a correlation matrix was obtained [104]. Two different procedures are commonly used to extract factors: the centroid factor analysis and the principal components analysis. Although both procedures lend similar results, theoretical and methodological considerations are sometimes used to select one over the other. In the present study, the principal components analysis was performed with a varimax rotation to identify factors and extract a factor loading for each participant, thus, representing the extent to which each participant sort was associated with each

factor.²⁵ In the resulting matrix, correlations are generally considered statistically significant when being equal to or higher than 2-2.5 times the standard error [118] (p.111). High correlation value indicates a high level of agreement with the corresponding factor. Of particular interest is the factor array obtained for each factor, which represents the group's point of view. To determine the number of factors to retain after rotation, two criteria were used: the statistical criterion of the eigenvalue (with eigenvalue greater than 1.0 considered significant) as well as the theoretical criterion of examining the meanings of the factors [105].

On the other hand, the qualitative data consisting of the semi-structured interviews post Q sorting were tape-recorded and transcribed verbatim. Analysis was done with the transcripts in the original language. Transcripts of all interviews were read 3 times before coding. Structural coding [130] was then applied with the use of the software Atlas.ti 7.0 [131] to retrieve the interview content regarding the 54 statements of the Q sample. Afterwards, the output report containing the data on the 54 statements from all the interviews was re-read multiple times. Triangulation using the qualitative (transcripts) and quantitative data (statistical outputs) was done to elucidate the conceptual meanings of the different subgroups (factors) found within the group of study participants. From the statistical report, the distinguishing statements, the top 10 most agreed statements and the top 10 most disagreed statements were used to develop the narratives of each factor. **Appendix J** presents the statements with the highest level of agreement and disagreement and the distinguishing statement numbers by factor. Finally, once the different viewpoints were identified, characterized and described, the findings were interpreted through the lens of the meta-framework of the policy sciences, which is both a “theory about society and a

²⁵ **Appendix I** presents a comparison of the results obtained from using the centroid factor analysis and the principal components analysis. The results with both methods were similar but the principal components analysis was retained because an additional distinct and legitimate viewpoint was revealed.

method of inquiry into problems and associated social and decision processes” [33]. **Appendix K** presents additional details about data analysis for this research component.

RESULTS

Study participants

The study participants represented a diverse range of organizations and were the main actors involved in the development of the operationalization and coordination of the PAMRDC in 2010-2012. A total of 21 people participated in this study, out of the 25 people who were invited, representing a participation rate of 84%. Two declined the invitation because of time constraints; one did not answer the personal electronic message; and another one declined to participate without providing reason. The respondents included representatives from the MOH (2), Ministry of Agriculture (1), SETSAN (2), UN agencies (UNICEF, FAO, WFP, WHO) (6), NGOs (5), donors (3), academia (1) and a consultant (1). From those respondents, 15 were Mozambicans and 6 were expatriates. Women represented 81% of the respondents and worked predominantly in nutrition while men worked in the areas of agriculture and food security. **Table 26** presents the characteristics of study participants. A total of 57% (n=12) rated the intensity/frequency of their involvement regarding PAMRDC as being high (intensive and continual), 38% (n=8) as being medium (moderate) and 5% (n=1) as being low (sporadic and brief). The overall reaction toward the Q sorting was very positive; people really engaged with the Q sample and appreciated the exercise.

Table 26: Characteristics of study participants

Variable	Description	% (n)
Age (years old)	20-29	14 (3)
	30-39	29 (6)
	40-49	33 (7)
	50-59	19 (4)
	60-69	5 (1)
Nationality	Mozambican	71 (15)
	Belgian	10 (2)
	Danish	10 (2)
	French	5 (1)
	Netherlands	5 (1)
Highest education graduated from	Bachelors degree	29 (6)
	Graduate degree	71 (15)
Involvement regarding the PAMRDC	Worked on precursor (documents/events) to the PAMRDC	62 (13)
	Design of the PAMRDC	57 (12)
	Participated in the consultation process with other sectors	57 (12)
	Participated in the core group for the development of the GT-PAMRDC	76 (16)
	Participated in the meetings of the GT-PAMRDC	95 (20)
	Participated in meetings of the donor community for the coordination	62 (13)
	Others	24 (5)
Intensity/frequency of participants' involvement regarding the PAMRDC	Intensive and continual (high)	57 (12)
	Moderate (medium)	38 (8)
	Sporadic and brief (low)	5 (1)

Factors interpretation

The analysis from the PQ software revealed a total of 4 distinct perspectives regarding the main issues related to the operationalization and coordination of the PAMRDC. **Table 27** presents the Q sample with factor arrays (and exact factor scores in Z-scores) for each factor; this represents the main statistical output that uncovered the different perspectives. **Table 28** presents the eigenvalues and % of variance explained by each factor: the 4 factors identified explained 59% of the variance of the data and all four factors met the statistical criterion of eigenvalue as well as theoretical criterion of being meaningful. All the participants loaded statistically significantly on at least one of those 4 factors that are referred to as factors A, B, C and D. Concretely, participants who are significantly associated with a specific factor have ranked-ordered very similarly the Q sample, thus, they are assumed to share a common perspective [105]. **Table 29** presents the factor matrix with the loadings (correlation coefficients) for each of the 21 participants. The threshold level for a statistically significant correlation was established at 0.32 (0.28-0.35) for $P < 0.01$. The lowest correlation for the most defining factor was 0.41 with the highest being 0.84. The viewpoint of factor A was predominant in this group with 12 people associated with it. Three people were associated primarily with each of the other factors. The majority of individual loadings were positive, which indicate that participants shared a similar perspective. A negative loading would have indicated that the given participant rejected the factor's perspective [105], but it was not the case in this study as the few negative correlations were very low and insignificant. A total of 10 people had a significant loading on only 1 factor; 10 had significant loadings on 2 factors, which meant that they had mixed viewpoints although for most participants, one was clearly predominant; 1 person had significant loadings on 3 factors. As an example, participant #1 had a significant loading only for factor A (loading of

0.71) and insignificant loadings on the 3 other factors (factor B: 0.07; factor C: 0.21 and factor D:0.10). In this study, the “mixed loaders” were included as it was assumed that individuals could align simultaneously with certain statements in more than one view. Nonetheless, the interviews of participants loading heavily on only one factor weighed more in the development of the narratives for each factor, compared to the ones having significant loadings on more than one factor.

Each factor favored a different approach, was concerned with a specific focus area, and raised various related issues regarding the operationalization and coordination of the multisectoral action plan. Some areas of convergence were observed as well as some areas of divergence. In certain cases, participants proposed strategies to address specific challenges. All of those are presented in this section. Based on the analysis, the factors were named as follows:

Factor A: Intervention perspective (n=12)

Factor B: Advocacy perspective (n=3)

Factor C: Structuralist perspective (n=3)

Factor D: People-centered perspective (n=3)

The 4 factors are presented below with the scores²⁶ of the referred statements in parenthesis, with factor A being in first position, factor B in second position, factor C in third position and factor D in fourth position. When the factor score has no sign, this indicates a positive score referring to agreement. A negative sign (-) refers to disagreement. Values in boldface indicate that this statement is a distinguishing statement²⁷ for the respective factor. The underline is used to help identify the statement used for the presentation of the interpretation of each factor

²⁶ Participants had to rank-order statements using the following scale: -3 = strongly disagree, -2 = disagree, -1 = disagree a little, 0 = neither agree nor disagree, +1 = agree a little, +2 = agree, and +3 = strongly agree.

²⁷ A distinguishing statement means that the statement was statistically significantly different for this group compared to the others.

Table 27: Q sample with factor arrays (exact factor scores in z-scores) for each factor

#	Statements	A	B	C	D
1	Several high-level people (President, Prime Minister, Ministers, Directors) know about the problem of chronic undernutrition, but as a whole, they do not seem to understand the meaning, causes or consequences and what can be done about it. While we should certainly keep advocating for high level understanding and support, I feel we can make plenty of progress even without such support and we should get on with doing what we can right away.	2 (1.14)	3 (1.77)	-3 (-2.02)	3 (0.78)
2	The ideal political person to ensure authority and request information regarding the PAMRDC (updates, reporting, results, next steps) from all sectors is the Prime Minister.	3 (1.46)	3 (1.63)	0 (-0.07)	1 (0.25)
3	It is fine and good to get the Prime Minister's support for and oversight of the PAMRDC but in reality he will not be able to force the ministries to make significant changes only for the purpose of improving nutrition.	-1 (0.03)	-1 (-0.54)	-1 (-0.05)	-2 (-1.38)
4	The proposed structure of the CONSAN (National Council for Nutrition and Food Security) was rejected by the Government of Mozambique due to the opinion that it would create a heavy structure. I believe that despite this decision, the Nutrition and Food Security Community could use strategic actions to strengthen commitment, coherence, consensus, and/or coordination in regards to the PAMRDC and reach great achievement even if the CONSAN is not created. Strategic actions could include identifying allies through regular dialogue and interaction; and assigning lead roles where good people are located.	3 (1.85)	1 (0.47)	-1 (-1.34)	2 (0.39)
5	Several donors are interested in supporting the PAMRDC, but will not commit to funding the plan until they see what the coordination will be at the higher levels. It is critical the Government define more concretely how the coordination at the higher-level will be done.	1 (0.69)	0 (-0.53)	3 (2.17)	0 (-0.61)
6	Some donors have expressed the interest in funding the PAMRDC, and they have sent clear messages to the Government on what is expected before funding is officially committed.	0 (0.10)	1 (0.16)	2 (1.42)	-1 (-1.84)
7	There is saying in nutrition that 'everyone says they want more coordination but no one really wants to be coordinated'. I think that is very much the case here in Mozambique.	0 (1.00)	-2 (-1.14)	-3 (-2.29)	-3 (-1.88)
8	Regarding the PAMRDC, donors are waiting that the Government defines how the plan will be funded before they commit funding.	-1 (-0.45)	0 (0.63)	2 (1.02)	-1 (-1.26)
9	"Despite some problems, SETSAN may have had to date, it holds considerable value from a policy perspective as it creates the institutional framework, or "home", for nutrition at the national level; it legitimizes nutrition as a national development priority and creates a window of opportunity for dialogue, resource allocation and monitoring of implementation." We should aim to increase its capacity to effectively carry out this role.	2 (1.70)	2 (0.89)	0 (0.08)	-1 (-0.75)
10	The reporting regarding the activities of the PAMRDC should be done through SETSAN, from provincial (multisectoral group) to central level (GT-PAMRDC).	2 (1.03)	2 (1.53)	1 (0.32)	-1 (-1.12)

11	The group called “Nutrition Partner’s Forum” meets regularly. The objectives of this group are clear and there is a good communication channel between this group and the Government (especially health and agriculture).	0 (-0.23)	0 (0.36)	<u>1</u> (0.68)	-1 (-1.01)
12	“The Mozambican experience reveals that the deluge of NGOs and their expatriate workers over the last decade has fragmented the local health system, undermined local control of health programs, and contributed to growing local social inequality.” Conjointly, Government and partners should develop a national code of conduct for NGO activities in the health sector, in which basic principles would be proposed.	0 (0.19)	-1 (-0.74)	1 (0.78)	-1 (-0.91)
13	Currently, Mozambique experiences unprecedented momentum in the growing attention paid to the importance of improving Nutrition and Food Security. The Food Security and Nutrition community is well organized, cohesive and speaks as one voice, which will help in continuing this momentum.	0 (0.02)	0 (1.09)	<u>1</u> (0.34)	-2 (-1.87)
14	“The planning framework in Mozambique is complex due to the extensive number of planning documents involved and respective timeframes and focus... There is a major weakness in the translation of large strategic plans into concrete actions defined to achieve objectives, with clear goals for implementation.” PAMRDC should not simply become just one more document; it must get operationalized and implemented. It is critical to develop and agree on an “operationalization guide.”	3 (3.08)	-2 (-1.26)	1 (-0.21)	0 (-0.80)
15	For the implementation of the PAMRDC, the central level needs to define clearly all the steps that need to be taken by the provinces.	0 (-0.03)	-3 (-2.03)	3 (2.50)	2 (0.76)
16	The Food Security and Nutrition Community in Mozambique faces a variety of divisions in terms of perceptions on “what” should be done (interventions) and “how” the selected interventions should be implemented. Something should be done to build on commonalities and try to decrease differences.	1 (1.18)	-2 (-0.95)	-2 (-1.12)	2 (0.38)
17	“The Comprehensive Africa Agriculture Development Programme (CAADP), endorsed by authorities from the Governments of the continent, presents a vision for the growth of the agricultural sector, rural development and the attainment of nutrition and food security.” The CAADP appears weak in terms of the potential impact the agriculture interventions can have on the nutritional status of the Mozambican population. It is crucial to do something about this.	1 (0.91)	-1 (-0.71)	0 (0.31)	0 (-0.01)
18	“SETSAN, in the exercise of his mandate of coordinating the formulation of policies, plans, information and interventions regarding Nutrition and Food Security in the country, was assigned by the Council of Ministers for the coordination of the implementation of the PAMRDC.” This decision was a good decision taken by the Council of Ministers.	2 (0.55)	3 (1.36)	2 (1.30)	-2 (-2.31)
19	The lines for the funding of nutrition activities at the provincial level are now functioning well (disbursement, accountability), which will facilitate the implementation of many activities of the PAMRDC.	-3 (-1.29)	-1 (-0.59)	-2 (-0.96)	-3 (-0.85)
20	Certain skills are necessary for good coordination. Those skills include communication skills (constructive, effective, constant). Regarding the PAMRDC, it is important to provide training to improve the skills of those who (will) play the role of facilitator for the coordination at the central and	<u>1</u> (-0.15)	2 (1.29)	2 (0.68)	2 (1.02)

	provincial levels.				
21	Certain skills are necessary for good coordination. Those skills include facilitation skills such as creating a safe space for facilitating dialogue, good listening of different viewpoints, seeing the big picture and organizing a process to reach a certain point.	2 (0.40)	2 (0.87)	<u>0</u> (0.11)	2 (1.65)
22	“Disagreements over interventions and strategies are an almost universal feature of the nutrition policy process...” Considering that multisectoral groups include actors with different perspectives and background, disagreements and conflicts are likely to happen. Thus, the facilitator should receive negotiation and conflict management training.	0 (0.14)	1 (0.17)	0 (0.20)	1 (0.89)
23	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Collecting and analyzing data on nutritional outcomes in order to track overall progress at the national and provincial levels.	-1 (-1.06)	1 (0.67)	1 (0.08)	1 (-0.12)
24	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Collecting data on process indicators to ensure that the work of the multisectoral groups from the provincial and central levels are coherent and functional.	1 (0.47)	1 (0.73)	0 (-0.25)	<u>2</u> (1.11)
25	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Analyzing survey data.	-1 (-0.57)	0 (0.67)	0 (-0.21)	0 (0.20)
26	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Collect, analyze, and interpret raw data (from all sectors) and report writing.	-2 (-1.60)	<u>1</u> (1.37)	0 (0.26)	0 (-0.70)
27	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Identifying the items to be discussed, preparing the agenda for meetings of the multisectoral group, and ensuring the identification of next steps.	2 (0.82)	0 (-0.17)	1 (-0.06)	1 (0.68)
28	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Leading the mapping of the interventions for planning purposes at the provincial level (regarding the PAMRDC).	1 (0.10)	1 (0.70)	1 (0.61)	0 (0.31)
29	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Develop and implement some interventions (e.g. mass campaigns on chronic undernutrition).	-1 (-1.48)	2 (2.47)	-1 (-0.95)	1 (-0.53)
30	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Maintaining supportive communication with each sector and arranging for technical or managerial assistance as needed, from other organizations or experts inside or outside the country.	1 (1.06)	0 (-1.17)	-1 (-0.56)	0 (0.78)
31	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Advocating for resource mobilization (from donors) regarding the PAMRDC.	1 (0.43)	1 (-0.24)	1 (0.35)	<u>2</u> (1.13)
32	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Advocating for increased political awareness regarding the PAMRDC.	2 (0.65)	1 (0.08)	2 (1.10)	<u>3</u> (2.09)
33	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Follow-up with concrete actions on the decisions taken by the GT-PAMRDC.	<u>1</u> (-0.08)	2 (0.97)	2 (1.04)	2 (1.40)
34	Functions that SETSAN <u>should</u> play regarding the PAMRDC:	<u>0</u>	2	-1	1

	Collating the data from all the sectors together for reporting to higher levels.	<u>(-0.16)</u>	(1.18)	<u>(-0.75)</u>	(1.20)
35	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collecting and analyzing data on nutritional outcomes in order to track overall progress at the national and provincial levels.	-3 (-1.54)	-3 (-1.10)	0 (-0.45)	-1 (0.03)
36	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collecting data on process indicators to ensure that the work of the multisectoral groups from the provincial and central levels are coherent and functional.	-2 (-1.22)	<u>0</u> <u>(0.14)</u>	-2 (-0.85)	-2 (-0.21)
37	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Analyzing survey data.	-2 (-1.64)	-1 (-0.16)	-2 (-0.71)	1 (1.40)
38	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collect, analyze, and interpret raw data (from all sectors) and report writing.	-1 (-0.96)	-1 (-0.43)	0 (0.28)	0 (0.81)
39	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Identifying the items to be discussed, preparing the agenda for meetings of the multisectoral group, and ensuring the identification of next steps.	0 (-0.42)	0 (0.39)	-1 (-0.38)	1 (0.78)
40	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Leading the mapping of the interventions for planning purposes at the provincial level (regarding the PAMRDC).	-1 (-1.34)	0 (0.42)	1 (0.74)	-1 (-0.34)
41	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Develop and implement some interventions (e.g. mass campaigns on chronic undernutrition).	-2 (-1.48)	<u>0</u> <u>(0.56)</u>	-2 (-1.12)	-2 (-0.52)
42	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Maintaining supportive communication with each sector and arranging for technical or managerial assistance as needed, from other organizations or experts inside or outside the country.	-2 (-0.91)	-1 (-1.24)	-1 (-0.79)	-1 (0.49)
43	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Advocating for resource mobilization (from donors) regarding the PAMRDC.	-2 (-1.03)	-2 (-1.22)	2 (1.16)	<u>0</u> <u>(0.37)</u>
44	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Advocating for increased political awareness regarding the PAMRDC.	-1 (0.10)	-2 (-1.13)	-1 (-0.63)	0 (0.81)
45	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Follow-up with concrete actions on the decisions taken by the GT-PAMRDC.	0 (0.34)	-1 (-0.30)	-2 (-1.62)	0 (0.27)
46	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collating the data from all the sectors together for reporting to higher levels.	-1 (-0.31)	-1 (-0.80)	-1 (-0.71)	1 (0.79)
47	In order to be able to fulfill its functions, SETSAN needs additional and capable people. It will take several years to properly trained staff to take on these roles. We should begin arranging such training and in the meantime staff SETSAN with expatriate staff so that we can get on with the work.	0 (0.39)	-2 (-1.24)	-1 (-0.77)	-1 (-0.31)

48	At the provincial level, we could always benefit from having more capacity but in most provinces the overall capacity of all sectors for planning is enough to be functional and move forward with the steps expected from the central level for the implementation of the PAMRDC.	-3 (-1.51)	-3 (-1.33)	-2 (-0.34)	-2 (-0.37)
49	Considering the importance of reaching a high number of people with effective interventions to decrease chronic undernutrition, working to move forward with the implementation of community-based interventions should be one priority of the GT-PAMRDC.	1 (0.09)	<u>0</u> <u>(-0.03)</u>	1 (0.99)	1 (1.02)
50	The PAMRDC contains the priority package of interventions that need to be implemented to decrease chronic undernutrition. There is no need for further discussion and consensus-seeking on this package – we should just get on with implementing what is there and improving it over time if necessary.	-1 (-0.32)	0 (-0.57)	0 (0.29)	-1 (-0.15)
51	The donor community in nutrition is generally well aligned to provide funding that complements each other for the support to the PAMRDC.	-1 (-0.63)	-1 (-0.62)	-1 (-0.62)	-2 (-0.25)
52	Global initiatives (such as the REACH Approach and the SUN Movement) influence the national nutrition initiatives in Mozambique in both considerable and positive ways.	0 (0.04)	<u>-1</u> <u>(-0.94)</u>	3 (2.02)	0 (0.04)
53	Currently, the planning and decision-making processes regarding the PAMRDC are very much top-down (from central to provincial to community). If we want to have an impact in communities, we need to find ways to have more bottom-up approaches in which we will hear more from the lower levels.	1 (0.90)	1 (0.10)	0 (0.40)	1 (0.03)
54	The fact that not always the same people come to the meetings of different groups (ex.: GT-PAMRDC) is not a problem as there is generally a good follow-up between meetings.	-2 (-0.41)	-3 (-1.49)	-3 (-1.39)	-3 (-1.77)

All values in boldface indicates that the corresponding statement is a distinguishing statement for the respective factor (A, B, C or D)
A distinguishing statement is ...

In addition, the values in **boldface** (without being underlined) indicate significance at $P < 0.01$, while the values underlined indicate significance at $P < 0.05$ for the respective statement.

Table 28: Eigenvalues and percentage of variance explained by factor

	Factor A	Factor B	Factor C	Factor D
Eigenvalue*	8.07	1.69	1.52	1.17
Percentage of Variance (%)	29	12	10	8

* An eigenvalue greater than 1.0 is considered significant and justifies keeping the respective factor for the analysis (statistical criterion). However, a factor with a lower eigenvalue than 1.0 could also be retained based on the theoretical criterion of meaningfulness.

Table 29: Factor matrix with loadings for each participant

Factor loading Q sort	A	B	C	D
1	<u>71</u>	7	21	10
2	<u>37</u>	<u>71</u>	9	3
3	<u>54</u>	27	5	15
4	<u>65</u>	<u>44</u>	5	13
5	-15	16	<u>84</u>	-10
6	<u>75</u>	18	20	1
7	<u>51</u>	2	7	<u>59</u>
8	-5	<u>42</u>	11	<u>67</u>
9	5	<u>84</u>	0	16
10	<u>62</u>	15	9	<u>32</u>
11	<u>71</u>	8	14	5
12	<u>68</u>	20	21	25
13	24	<u>58</u>	<u>38</u>	6
14	<u>66</u>	<u>48</u>	15	-23
15	<u>67</u>	-4	19	<u>36</u>
16	<u>43</u>	15	<u>67</u>	10
17	<u>53</u>	30	-7	23
18	<u>70</u>	23	23	-16
19	<u>41</u>	-3	<u>65</u>	22
20	<u>36</u>	-1	<u>36</u>	<u>41</u>
21	<u>66</u>	6	1	19

Values are rounded and decimals to two places are omitted.

Factor loadings in boldface are significant.

Values underscored express the defining factor for each participant, which was selected based on the highest correlation for each respective participant.

Factor A: the intervention perspective

Factor A is the largest group, with 12 participants having this factor as their most defining factor, and explains 29% of the total variance in the data. People loading statistically significantly and the highest on this factor tended to favor statements that proposed different actions with an approach of orientation to advance the operationalization of the multisectoral action plan. The most agreed upon and distinguishing statement for this group was about providing specific guidance from the central level to the other administrative levels through the development of an operationalization guide:

#14: “The planning framework in Mozambique is complex due to the extensive number of planning documents involved and respective timeframes and focus... There is a major weakness in the translation of large strategic plans into concrete actions to achieve objectives, with clear goals for implementation.” PAMRDC should not simply become just one more document; it must get operationalized and implemented. It is critical to develop and agree on an “operationalization guide.” (3, -2, 1, 0)

Participants of this group expressed a range of views regarding how specific the guidance should be, but they particularly wanted to ensure that provincial and district planning was in accordance with the priorities decided at the central level. Their discourse was directive in terms of the planning, focusing on having people at the central level orienting on “what” should be done. However, they also wanted to leave flexibility to lower levels in terms of planning “how” things should be done. People in this group also appeared to value the decisions regarding “how” interventions are carried out and that the planning should allow for adaptation, as expressed in the following quote:

“I really agree with it (statement #14) ... I like the statement of this card because it has the complexity of the nature ... I think the “how” is much more important than the “what,” “to who,” “for what,” and the “how” again has to be adjusted over time.” (Representative of a donor organization, $r=0.66$)

Taking a guidance-based approach seems to give a certain frame to the interventions and coherence in the system, which is reinforced when considering that this group neither agreed nor disagreed that the central level needed to define clearly all the steps to be taken by the provinces (#15: 0, -3, 3, 2). Thus, the guidance they wanted seems to be more toward providing a general framework and making sure the plans at the different levels were aligned with the national plan. Their guidance-based approach may also be partly due to their belief that people at the lower levels in the national system have limited technical capacity. Indeed, they strongly disagreed that at the provincial level the capacity of all sectors for planning was enough to be functional and move forward (#48: -3, -3, -2, -2). They considered that people at lower levels needed to be carefully guided and oriented, as expressed in the following quotes by two participants from this group who commented on statement #53:

“... I don’t mind so much if it is a bit top-down in terms of the planning ... exactly how you can organize, and actually the implementation, that can be more bottom-up, but I don’t mind to move things forward. It’s probably not politically correct, but ... anyway, I think sometimes to move things forward, I don’t mind if it is top-down. There should be space for the bottom-up, what exactly is done and how it’s done. ... I know bottom-up are much more likely to be sustainable. I do think it is important at this stage because we have already struggled so long, and things have not moved forward, so yes, we should stimulate bottom-up in terms of how to do them exactly, but I don’t mind if there is a push because the situation is so dramatic.” (Representative of a UN agency, $r=0.68$)

“...It would be good if we could go from bottom-up but knowledge is necessary at lower levels on the “know how.” The people at lower levels could say things like “we want cooking demonstrations” or other things that they want, but without basis. This is a useful information for the thinkers (planners), but I think this is a transitory phase in which it is still necessary to go top-down. When there will be development of “know how” in the lower levels, in the future, we can invert.” (Government representative, $r=0.66$)

These quotes illustrate the distinction that people make between the different phases (or decision functions) of the policy process namely planning and implementation and that different approaches may be required at those different phases.

People in this group also appear to face duality regarding different aspects: the “what,” and the “how,” the tensions between bottom-up and top-down, but also between theory and practice, as expressed by this participant when commenting on statement #50:

“One challenge is to find the middle ground between what is the ideal package ... what is the ideal intervention and when we should get moving. I think there is a tension between the 2, and it’s not bad, but it’s not good if we would stick too long in the theoretical discussion, so that is a challenge. Knowing that the plan is not perfect, but at the same time, not losing the momentum, get moving with the things that we feel good about, but at the same time, we do need to stop and do things better.” (Representative of a UN agency, $r=0.68$)

Faced with these dualities that express the tension between what is ideal and what is possible in the meantime, people associated with this factor appear to favor movement and action through agreement with the statements that identified problems but also proposed concrete actions,²⁸ such as the development of an operationalization guide (#14: 3, -2, 1, 0) as mentioned above, carrying out strategic actions despite the proposed formal structures for coordination not being approved (#4: 3, 1, -1, 2), or taking action right away even if they felt that political people did not quite understand and support chronic undernutrition as being a priority problem (#1: 2, 3, -3, 3). A participant in this group clearly expressed desire for action when commenting on statement #4:

“What I see is that we are moving and we can move and we should move because we can decide ... I think political attention and support also tend to change quite rapidly sometimes ... so we need to have someone say: “Ok, green light, and go for nutrition, please, come on everybody, get together”... There is a lot of work, we can do capacity building, we can work with NGOs, and we can build capacity in planning in the provinces. And we can also start implementing because basically the plan consists of various activities that are more or less already implemented, quite a few of them, so we can already work to strengthen that. So I think it’s a “yes and no,” we need the political support, “yes definitely,” on the other hand, it does not make us immobile and passive.” (Representative of a UN agency, $r=0.62$)

²⁸ For factor A, a total of 4 out of the top 5 most agreed statements proposed concrete actions within the statement compared to only 2 for each of the other factors.

Therefore, this group of people appears action-oriented and resourceful, as they believe progress can be achieved through various actions. This is not surprising considering that a majority of them are the people most actively involved with the coordination, operationalization and implementation of the PAMRDC. Many of them could be considered the “movers” at the central level because they are the ones who participate in many discussion forums to advance on various fronts. To achieve their means, people in this group also valued persistence in their work, as expressed by this participant:

“I completely agree (with the statement #1). One step has been done but this needs to continue ... what I mean is that we need to continue the work ... it is a constant and permanent exercise. There is a need to convince people that this is it, the way it should be done. There is a need for ongoing work, for persisting on the same issue.” (Representative of a UN agency, $r=0.75$)

In addition, despite acknowledging that multiple actions could be done at the technical level, people in this group believed that political support was crucial. Furthermore, they thought that the ideal political person to ensure authority about the PAMRDC was the Prime Minister (#2: 3, 3, 0, 1).

Another predominant aspect in the discourse of the people loading high on this factor was that they valued SETSAN and thought it should play several key functions. They believed (as did factors B and C) that it was a good decision that SETSAN received the mandate for the coordination of the PAMRDC (#18: 2, 3, 2, -2). They thought SETSAN should identify the items to be discussed, prepare the agenda for meetings of the multisectoral group and ensure the identification of next steps (#27: 2, 0, 1, 1). They also agreed (as did the other groups) that SETSAN should advocate to increase political awareness regarding the PAMRDC (#32: 2, 1, 2, 3) and that the reporting regarding the activities of the PAMRDC should be done through SETSAN, from provincial to central level (#10: 2, 2, 1, -1). Although to a lesser extent, but still a

distinguishing statement for factor A, participants in this group agreed a little that SETSAN should maintain supportive communication with each sector and make arrangements for technical or managerial assistance (#30: 1, 0, -1, 0), even though some people mentioned that SETSAN would never have the resources to arrange assistance for the sectors. They also considered that SETSAN was currently not capable of playing these functions (#42: -2, -1, -1, -1).

Despite highly valuing SETSAN, this group believed that efforts should be invested to increase its capacity (#9: 2, 2, 0, -1). They were critical about SETSAN's capacity, and among the top 10 statements that people in this group disagreed the most, 6 were related to functions that they thought SETSAN was currently not capable of playing. They also thought there were several functions that SETSAN should not perform; they did not think that carrying out the work of coordination was compatible with the role of collecting and analyzing data specific to the different sectors, as seen in the following statements:

#26: "Functions that SETSAN should play regarding the PAMRDC: Collecting, analyzing, and interpreting raw data (from all sectors) and report writing." (-2, 1, 0, 0)

#23: "Functions that SETSAN should play regarding the PAMRDC: Collecting and analyzing data on nutritional outcomes in order to track overall progress at the national and provincial levels." (-1, 1, 1, 1)

They appear to be the only group opposed to SETSAN performing these data collection tasks and analysis because several people mentioned that "data on nutritional outcomes" falls under the responsibility of the MOH (4 participants in this group and 1 in factor B). Thus, they seem to believe that there are areas of nutrition that fall under the MOH's responsibility and others under SETSAN's responsibility, as illustrated by the following quote:

"I think that it was a good selection because SETSAN was nominated a long time ago as the main coordinator for the actions of food security and nutrition. Nonetheless, the area of nutrition is vast and not all of it is SETSAN's responsibility." (Representative of a UN agency, $r=0.70$)

Part of the reason for not wanting SETSAN to carry out these functions may be related to capacity and turf. This group considered that SETSAN was currently not capable of collecting and analyzing data on nutritional outcomes (#35: -3, -3, 0, -1). They also did not think that SETSAN was capable of analyzing survey data regarding the PAMRDC (#37: -2, -1, -2, 1). The only data that they agreed SETSAN should collect were data on process indicators to ensure that the work of the multisectoral groups from the provincial and central levels was coherent and functional (#24: 1, 1, 0, **2**). As phrased by one participant: “they (SETSAN) should be knowledge managers but very much on the process.” (Representative of a UN agency, $r=0.62$) However, people in this group did not believe that SETSAN was currently capable of playing this function of collecting data on process indicators (#36: -2, 0, -2, -2). Additionally, they did not think that SETSAN was currently capable of developing and implementing some interventions (#41: -2, 0, -2, -2). In fact, people in this group did not think that coordination and implementation of interventions were compatible so they were opposed a little to SETSAN developing and implementing certain interventions (e.g. mass campaign on chronic undernutrition) (#29: -1, **2**, -1, 1) as expressed in the quote below:

“I think that SETSAN should not implement. This is really not its role. We cannot have an institution in charge of coordination begin to implement...those are 2 different roles for me. And this is a huge confusion.” (Representative of a donor organization, $r=0.71$)

This point will be further discussed in the section on divergence among the factors.

Overall, participants loading high on factor A expressed that the way to move forward with the PAMRDC was to take concrete actions that would advance the operationalization and then, the implementation of interventions. They also discussed several considerations related to the planning at different levels. Their narrative highly talk about guidance to ensure that actions fall within a coherent framework but they want to leave some flexibility in the lower levels to

decide on the “how” and adapt over time along the implementation process. Finally, this group believed that SETSAN was valuable but it should focus on ensuring optimal processes for coordination rather than taking care of data analysis and implementation of specific interventions that were the responsibilities of the different sectors.

Factor B: the advocacy perspective

Three participants loaded most heavily and statistically significantly on this factor that explain 8% of the total variance. This group appears to favor an approach of targeting politicians as a means to achieve several objectives, as will be exposed later. Similarly to factor A, participants in this group thought the ideal political person to ensure authority regarding the PAMRDC was the Prime Minister (#2: 3, 3, 0, 1) as it was their most agreed upon statement. They endorsed the Prime Minister providing leadership for the PAMRDC because of his potential influence on other Ministers, and by the same token, on other sectors. Someone in this group referred to him as the highest figure to represent multisectorality, besides the President. The second most agreed upon statement was #1 (2, 3, -3, 3): two of the three participants commented, agreeing especially with the first part stating that “high-level people know about the problem of chronic undernutrition, but as a whole, they do not seem to understand the meaning, the causes or consequences and what can be done about it...” One participant supported this opinion with a comment:

“ We are talking a lot but I think that our leaders are not at the same level as us, the technical people, so we need to do advocacy at the highest level. It is necessary to show that the countries that had the political power and technical power together made a difference... We need to do tremendous work, influence the President, influence the Prime Minister, and influence the Cabinet of the First Lady because the Ministers alone cannot do this work. (Government representative, $r=0.58$)

This participant also acknowledged a certain limitation of the Prime Minister’s authority and power when mentioning that the Prime Minister was very important but not sufficient. From

the previous statements and comment, this group is clearly concerned with political people. This is further emphasized when another participant expressed what she/he believed the major weaknesses were when commenting on statement #14 about the operationalization guide:

“... It is not in the design of strategy or defining objectives but rather it [the major weakness] is in the implementation that has other components and factors. ...The major problem is political commitment. Yes, I think it is important to define the priorities ... and that they are owned by the politicians, the people who take decisions on the release of the funds and on the decentralization.” (Member of an academic institution, $r=0.84$)

Another participant associated with this factor echoed those arguments, as the whole interview emphasized the need to reach, educate and convince high-level individuals about the problem of chronic undernutrition and the solutions. Thus, a large part of the discourse from people loading high on factor B refers to politicians and underlines the importance of political awareness and understanding in order to have an increased political commitment.

Another predominant aspect in the discourse of the participants loading high on this factor regarded the importance of decentralization. The most disagreed upon and also distinguishing statement for this factor was:

#15: “For the implementation of the PAMRDC, the central level needs to define clearly all the steps that need to be taken by the provinces.” (0, -3, 3, 2)

People loading high on factor B appear to favor a decentralization approach, as reflected by one participant who commented on statement #15:

“No, it cannot be the central level. We are in a process, in a decentralized planning where the decentralization is the focus. We cannot continue to think that things need to be centrally planned. This was the model that we had some time ago. This model had, like any other model, its successes but it also showed some weaknesses. This is why the approaches were changed so saying that the central level needs to define all that the provinces need to do, no, because the provinces know more its realities. The provinces know better what its problems are.

Overall, we know what are the problems ... the causes of undernutrition, but specifically, we do not exactly have this knowledge for each place. These questions regard provincial planning so it is better that the own provinces identify their problems within the frame of the PAMRDC and do their own planning. What we want is that the provincial planning be

aligned with the central planning like with all the other policies. The policies are taken in a determined level, but all the policies that contribute for the attainment of those objectives of this policy need to be aligned, so the PAMRDC is an umbrella. The provinces will design their own provincial plans under this umbrella, but they need to be the ones doing it. The central level cannot do it. We need coordination at the central level, and the provinces and districts doing the same things. The objectives that we want to reach are the same ones. Yes ... so saying that the central level should plan and define what the provinces should do, I disagree.” (Government representative, $r=0.71$)

The message of this participant in terms of not having the central level much involved in the provincial planning is clear. This opinion characterizing this group is also reflected in another disagreed statement regarding the development of an operationalization guide (#14: **3**, **-2**, 1, 0), as opposed to being the most agreed statement for factor A. Participants in factor B appear to want something similar to factor A: provincial plans aligned with the national plan. However, they somehow seem to disagree with orientation and specific guidance (#14 and #15). Nonetheless, someone mentioned that her/his disagreement with the statement regarding the development of an operationalization guide (#14) was more that she/he thought that actions should be geared toward other more important problems. When commenting on #14, this same participant said that she/he did not think that the translation of policy documents into concrete actions was the problem, but rather it was political commitment, as mentioned before. In addition, as opposed to factor A, people in this group did not seem to distinguish the “what” should be done, such as deciding priority interventions and areas, from the “how” it should be done, such as leaving freedom how certain priority interventions would be delivered (e.g. nutrition education), which was an important distinction made by factor A.

This group also highly valued the institution of SETSAN, as did factor A. One of the most agreed upon statements was regarding SETSAN becoming the coordinator of the PAMRDC, which they considered a good decision (#18: 2, **3**, 2, -2). They also thought that the reporting should be done from provincial to central level through SETSAN (#10: 2, **2**, 1, -1); and despite

problems, SETSAN held considerable value, but we should aim to increase its capacity (#9: 2, 2, 0, -1). Despite agreeing with the limited capacity of SETSAN, people in this group disagreed that to fulfill its functions, it would take several years to properly train staff and that expatriates would be the solution in the meantime (#47: 0, -2, -1, -1). They also highly disagreed that at the provincial level, the overall capacity of all sectors for planning was enough to be functional (#48: -3, -3, -2, -2). In addition, as opposed to factors A and C, people loading high on factor B believed that SETSAN should “develop and implement interventions (e.g. mass campaigns on chronic undernutrition)” (#29: -1, 2, -1, 1). One participant commented on the implementation of interventions by giving the example of a campaign to increase awareness and influence the decision-makers at higher levels, as expressed below:

“I was commenting those campaigns the other day, we can even begin with people at the high-level, the President, the Ministers, the Parliament. Why? Because, those create responses. Many people in the communities like to listen to them ... The President has been going in the whole country, Presidencia Aberta [Open Presidency]. The deputies go there in the communities so the people like to hear those politicians. So if they (the politicians) talk about those things, it can sound well and be the beginning, but also without discouraging campaigns at the community level.” (Member of an academic institution, $r=0.84$)

This quote illustrates again the focus on political people. Participants loading high on factor B appear to believe in a chain of influence: that politicians can influence not only the decision-makers at high-levels but also the population. They also seem to believe that to benefit from the support of people at high-levels, the focus should not be on one person but rather on convincing a majority of people. One person belonging to this group provided details for this focus on political people:

“Here in Mozambique, SETSAN, the way it currently is, is unable to dialogue as a political power entity. This space does not exist, and when SETSAN wants to dialogue, it is with the Minister of Agriculture. This space does not exist. This is a huge, huge, huge, huge limitation.” (Government representative, $r=0.58$)

This participant provided an example of the consequences of a lack of awareness and knowledge from politicians:

“...There is a democratic power in the Council of Ministers. For example, one big example, as long as the “engine” is not educated completely, the Prime Minister alone is not able to do it all. This is why, in 2009 or 2010, only the Prime Minister alone thought “yes,” this (issues of food security) has to come to my office.” So because there was no consensus, he was alone and was unable to change the situation.” (Government representative, $r=0.58$)

Considering this comment, this person assumes that the lack of consensus was because of a lack of awareness and that educating political people would convince them of the need for the Prime Minister to lead issues of food security. People associated with this group proposed several strategies to achieve their goals, one of which referenced a strategy that could influence the politicians and high-level decision-makers:

“... We need to work a lot, work a lot. Also, during this period, we need to show results, because we already had a council, with all the powers but it did not bring many results. We need to invert with the work, to show that we need to grow with the levels of undernutrition beginning to decrease a little bit; this is work.” (Government representative, $r=0.71$)

This person was referring to the benefits that showing results could have on influencing high-level political people regarding the importance of the creation of CONSAN. Showing results would be one step closer to the creation of the CONSAN, which it was thought would give SETSAN an increased authority and independence to carry out its function of coordination.

Another participant mentioned an additional strategy:

“The Prime Minister is a high-level political figure, but at the same time, he is a human who needs to become more aware. He needs to better understand and take ownership about the issue (chronic undernutrition) ... more advocacy, more awareness raising to the person, the Prime Minister, in order to later extrapolate the human question to the politician... We can talk but if we do not raise awareness in the person, we may not reach many objectives. I think it needs to be in this perspective, the person first and after... more dialogue, more noise on this.” (Government representative, $r=0.71$)

Considering the discourse that people loading high on this factor had, with a narrative on the importance of influencing political people, and on decentralized and bottom-up approaches, there are some surprises that come with the scoring of several statements. For example, participants in this group disagreed a little that global initiatives (such as the REACH approach and the SUN movement) influenced the national nutrition initiatives in Mozambique in both considerable and positive ways (#52: 0, -1, **3**, 0). This is surprising because those initiatives aim, among others, to improve multisectoral coordination and to influence the political level within each country. This negative score expressing disagreement may be due to the timing because when the study was done, REACH and SUN initiatives were only beginning in Mozambique, which is a likely explanation because one participant from this group also mentioned regarding REACH:

“We have a lot of expectations... we think it (the REACH initiative) is a good opportunity to talk about the issue (chronic undernutrition) and push the agenda at a higher level, but it is necessary to do a lot of advocacy.” (Government representative, $r=0.58$)

It is also surprising that this group scored the following statement neutral:

#49: “Considering the importance of reaching a high number of people with effective interventions to decrease chronic undernutrition, working to move forward with the implementation of community-based interventions should be one priority of the GT-PAMRDC.” (1, 0, 1, 1)

This appears contradictory since numerous community-based interventions use bottom-up approaches and value community empowerment and decentralization processes for the development and implementation of their interventions. However, it may be because this group does not see the GT-PAMRDC as having to do with the implementation of specific interventions. Additionally, the ranking of a function for SETSAN was surprising: people in this group appear less convinced compared to people in all the other groups (#32: 2, 1, 2, 3) that a function of

SETSAN should be “advocating for increased political awareness regarding the PAMRDC.”

Among all the functions included in the Q sample, the major function that this group saw for SETSAN (as they agreed and it was a distinguishing statement) is regarding the implementation of interventions (e.g. mass political campaigns on chronic undernutrition) as described before.

Another function that they saw for SETSAN was to “follow-up with concrete actions on the decisions taken by the GT-PAMRDC” (#33: 1, 2, 2, 2). Regarding SETSAN’s capacity, as factor A, people in this group did not think that SETSAN was capable of collecting and analyzing data on nutritional outcomes to track overall progress (#35: -3, -3, 0, -1) although they did agree a little that SETSAN should play this function (#23: -1, 1, 1, 1) (as well as all the other groups, except factor A). They also did not think that SETSAN was capable of advocating for resource mobilization (#43: -2, -2, 2, 0) but they agreed a little that it should be a function (#31: 1, 1, 1, 2). They also thought that one of its functions should be collating the data from all the sectors together for reporting to higher levels (#34: 0, 2, -1, 1).

Overall, factor B considered that the way forward with the implementation of the PAMRDC was by doing advocacy to politicians to increase their awareness of the problem of chronic undernutrition and the potential solutions, which they thought would lead to an increased political commitment. However, this group appears to neglect the importance of the entire implementation process that could help them attain their objectives (such as the REACH approach, the SUN movement, community-based interventions and having SETSAN advocating for increasing awareness among political people). Even if tentative justifications were proposed for the low scores of the statements including the proposed actions, when taking those statements as a whole, their ‘theory of change’ seems to neglect guidelines and operational plans because they appear to assume that through only doing advocacy to convince the politicians and high-

level individuals about the problems and solutions of chronic undernutrition, the actions will get implemented and produce results.

Factor C: the structuralists

Three people loaded statistically significantly and the highest on this factor that explains 7% of the total variance. This group appears concerned with aspects of the development of structures and mechanisms for coordination and funding. The most disagreed statement by this group was about a saying in nutrition that people wanted more coordination but they did not really wanted to be coordinated (#7: 0, -2, -3, -3):

“I would not say that no one wants to be coordinated, rather I would say that, there is no one who truly assumes the role of coordination ... I do not really feel there is coordination so it is not that people do not want to be coordinated. In fact, people like to be coordinated ...” (Government representative, $r=0.67$)

Another participant echoed this comment that people wanted to be coordinated:

“Again, yesterday, I was in a meeting at SETSAN and I do think that people do show up, people do ask questions, people do want to participate ...we’ll see how things go, but I don’t think it’s so much the case (people not wanting to be coordinated). I think right now people are in a more positive, wanting to be coordinated, phase. We’ll see.” (Representative of a NGO, $r=0.65$)

The most agreed upon and distinguishing statements for this group was also related to coordination:

#5: “Several donors are interested in supporting the PAMRDC, but will not commit to funding the plan until they see what the coordination will be at the higher levels. It is critical the Government define more concretely how the coordination at the higher-level will be done.” (1, 0, 3, 0)

Those segments of participants’ interviews and the latter statement make explicit that people in this group think there is a lack of coordination regarding the PAMRDC, although there seems to be a positive attitude regarding coordination and the development of it. Defining how the coordination will be done at the higher-levels or carrying out an apparent coordination appears to implicitly involve the development of structural arrangements. The latter is reflected

all along the narrative of this group. In the same line, people loading high on this factor strongly agreed with the following statement:

#52: “Global initiatives (such as the REACH approach and the SUN movement) influence the national nutrition initiatives in Mozambique in both considerable and positive ways.”
(0, -1, **3**, 0)

Considering that those initiatives aim to support the coordination (REACH) and to influence the politicians by involving them in a high-level group (SUN), and that indirectly those efforts can influence the development of structures and mechanisms for coordination, it is not surprising that this group ranked this statement among the highest. When commenting statement #52, one person highlighted an additional aspect important to consider:

“One thing with the *grupo técnico* (technical working group) that I don’t think is reflected anywhere is ... the idea is to have a focal point in each ministry on the *grupo técnico*, then, how would those focal points work within their own ministry? ... I don’t know how that would necessarily work in the individual ministries but I think again, that’s one of the roles of the REACH person as well, to link with those ministries and to see how they organize and make sure whatever they do feeds back into the *grupo técnico* and the PAMRDC ... because ... on paper, we just assume it’s going to happen, right, there will be focal points, they’re just going to do their work. I think they’re going to need support, depending on whom the person is. I don’t think it has been clearly defined either, and the profile of that person (focal point) I guess, that was a bit back and forth, they need someone sufficiently *técnico* (technical) that they know what the issues are, and can address them, but you also have to have some decision-making power because otherwise they don’t have a voice in their ministry ... I think those things also remain to be (addressed)...” (Representative of a NGO, $r=0.65$)

From this comment, we see that this person thinks that there is a need to better define the way coordination will take place within the different ministries and how the various groups will report to the technical working group at the central level. The issue of linkages between groups was also raised concerning another highly agreed statement in terms of the central level defining clearly all the steps to be taken by the provinces for the implementation of the PAMRDC (#15: **0**, -**3**, **3**, 2), as expressed by this participant:

“I know there was some sensitivity about the top-down approach, you shouldn’t dictate to

the provinces but in this particular case ... it's just a guide. We're not saying, "this is your plan," we're saying, "this is a guide as how to develop the plan" because at the end of the day, we do have a national plan, and provincial plan somehow needs to be aligned with the national plan. ... I think the point is always ... the provincial level to allow them a participatory process to draft their plan but, it needs to be aligned with the national plan. There are objectives to be met so ... you can't have every province completely doing things, there has to be some structure too, to have things done too, so I think in that sense, it's a guide, ... we're not giving them their plan, saying "just take this plan and translated it." No, we're saying, "this is a guidance, please, draft your plan. We're here to answer your questions," so ... I don't think it's really a dictation." (Representative of a NGO, r=0.65)

People in this group appear to have a guidance-based approach through defining the different steps to be taken in order to structure the processes, somewhat similar to factor A. Considering the previous quote, the score of this group regarding the development of an operationalization guide might come as a surprise (#14: 3, -2, 1, 0) because people in this group appear to want some guidance on what should be done. However, one participant expressed that the reluctance about the operationalization guide was because of the long process of the development of this guide rather than the guide itself:

"To be honest, I'm not even sure where we are with that (operationalization guide) now. I think the idea is that we have the *guião* (guide) ... Again, it's one of those things ... nobody is willing to just finally take a decision and say, "this is the *guião*, this is the final version." This is toooooo much of going back and forth about the language, and this and that, so I think at some point, we're just going to have to say, "this is the *guião*." [Who should say that?] The *grupo técnico* (technical working group), I think at some point, it just needs to be, that's why we are members of the *grupo técnico* ... and then, obviously the lead, SETSAN, will have to say: "now, we agree, this will be the guide, and this is what will be shared with the provinces and with relevant technical support, we'll help them develop their own plans." That needs to be done, A and as B, and to be honest, I think that's going to be, ... help SETSAN, on a daily basis, because obviously the *grupo técnico* only meets so often and then there is informal support from people so I think that's where the REACH person will have to play a key role ... I think those ... people behind the scene that will ... have to make sure with SETSAN, this is it. Just roll it out." (Representative of a NGO, r=0.65)

This practical characteristic in the discourse of participants loading high on this factor is also reflected with a highly disagreed statement (#1: 2, 3, -3, 3) and when this participant explained further her/his disagreement:

“... Of course, activity-wise, we can implement and make progress, but given the situation we are in now, also with the SUN movement ... to be part of this movement, it is expected that certain high-level people are on board, like now, that they are available and that they are participating to some degree. So I think we can't just go ahead and keep doing what we have been doing. We are at such a critical stage now, we need to move ahead and we are.” (Representative of a NGO, $r=0.65$)

So this participant emphasized the importance of including high-level people in the process and that there may be a need to reflect on the current actions and change tactics. This aspect is reflected in their disagreement with statement #4, which is also a distinguishing statement (#4: 3, 1, -1, 2). One participant specified disagreeing with the part of the statement that mentioned that the CONSAN “was rejected due to the opinion that it would create a heavy structure.” This participant emphasized that strategic actions were not likely to compensate the lack of structures for coordination, such as the CONSAN:

“SETSAN cannot reach the level of the Governor and articulate at this level. It cannot be SETSAN because it is under the tutelle [tutelage] of the Ministry of Agriculture and the Governor at the provincial level will not listen. The problem of coordination is very serious. We are not going anywhere in terms of hierarchy.” (Representative of a NGO, $r=0.84$)

Another participant supported this opinion as well:

“The challenges are huge. An important challenge that I perceive is about coordination. ... At the provincial level, at the level that SETSAN currently is, exactly, it is difficult to talk about a level for coordination ... This is one of the largest challenges, SETSAN being within the Provincial Directorate of Agriculture ... I think the current structure over there of SETSAN is still not very strong. So what happens ... is that SETSAN still does not possess a decision power.” (Government representative, $r=0.67$)

Therefore, a predominant aspect in the discourse of participants associated with factor C focused on the importance of developing the coordinating structures (e.g. different groups and even new entity such as the CONSAN) and mechanisms (e.g. formal processes between the

different groups formed for coordination) at different levels and the linkages between those levels.

Additionally, as can be seen from the several defining statements, this group also appeared concerned with issues related to donors and funding. Indeed, for this group, 4 out of the 5 most agreed distinguishing statements were about donors and funding. This group also has the highest total number of distinguishing statements related to donors and funding compared to the other factors: 1/10 for factor A; 0/10 for factor B; 5/12 for factor C; 1/11 for factor D. For example, this group agreed with the following statement:

#6: “Some donors have expressed interest in funding the PAMRDC, and they have sent clear messages to the Government on what is expected before funding is officially committed.” (0, 1, 2, -1)

#8: “Regarding the PAMRDC, donors are waiting that the Government defines how the plan will be funded before they commit funding.” (-1, 0, 2, -1)

When considering the ranking for statements, #5, #6 and #8, this group appears to believe that donors’ commitment is contingent to the development of the coordination mechanisms at higher levels as well as the definition of the funding mechanisms for the plan. Through agreeing with those statements, this group also appears to believe that time has come for the Government to act. Additionally, participants associated with this factor agreed a little with the following statement concerning donors, a distinguishing statement for this group:

#11: “The group called “Nutrition Partners Forum” meets regularly. The objectives of this group are clear and there is a good communication channel between this group and the Government (especially health and agriculture).” (0, 0, 1, -1)

One participant made this comment:

“I think there is good communication ... I don’t know if I would say that there is good communication with the group and the Government. I don’t think that channel has been formally created yet ... the lead and co-lead on this group (Nutrition Partners Forum), they do communicate very well, but I don’t think that’s necessarily as the Nutrition Partners Forum that they are communicating with the Government. It’s because as individuals they are communicating well with the Government so I think that needs to be

created. ... it needs to be more formalized... “How does the Nutrition Partners Forum, as an institution, communicate with Government?” (Representative of a NGO, $r=0.65$)

Thus, the importance of developing structural arrangement and mechanisms between groups, such as a formal communication channel between donors and government, appears crucial for this group that favored statements promoting or discussing the importance of such structures.

Another feature of factor C is that it gave the lowest overall ranking to the statements mentioning that several skills were necessary for good coordination (communication, facilitation, negotiation and conflict management).²⁹ The ranking was neutral and significantly different from the other groups so the statement for facilitation skills was a distinguishing statement (#21: 2, 2, 0, 2). Nonetheless, this group positively scored communication skills (#20: 1, 2, 2, 2). One person from this group would have liked to agree with all the statements referring to skills so those appear somewhat valued. However, this person explained the choice of prioritizing other statements, rather than the ones mentioning skills, highlighting one more time the practical side of people in this group:

“I think the other thing too, ... we can go back and forth, and people agree and disagree, but I think, it’s sometimes how you organize your meetings ... if you leave things very open, then, people will give you opinions for the next 2 years. At some point, you just have to say: “Thursday, from 10 to 12, we’re meeting, this is the agenda”... and just structure your meeting in such way that you can come out of it with a decision. People just have to realize that, at some point, we all need to agree, some things may not be the way we’d hoped, but you just move on, you have to move on. We only have so many years to achieve this plan. Sometimes, the meetings, do you really need 4 hours meeting? It’s just sometimes those pragmatic things, like the best use of time, the best use of people that you have in the room, email for that is not always the best things because you send out a document and if you’re lucky, you’ll get comment ... you’re chasing after people for the next 3 months to get comment (laughing). I think there is some of that... just thinking through, “how can I make the best use of time with the people that I have?” And then, let’s just move forward.” (Representative of a NGO, $r=0.65$)

²⁹ The sum of the ranking for the three statements regarding skills was 2 out of a possible maximum of 9 points (compared to 3 for factor A, 5 for factor B and 5 for factor D).

In this quote, the referral to different considerations when organizing meetings expresses again a desire to provide a structure and plan the processes in order to optimize actions. Although the ranking of facilitation skills was neutral for this group, this quote exemplifies how they value the organization and facilitation skills that can lead to different and productive outcomes. Thus, skills related to planning or facilitating meetings appear necessary to move things forward and counteract inaction that is sometimes due to the current structures in place for coordination and funding.

Additionally, this group valued SETSAN and agreed it was a good decision that SETSAN received the mandate of the coordination of the PAMRDC (#18: 2, 3, 2, -2). Nonetheless, when commenting the latter statement, participants loading high on factor C again referred to limitations of the current structures:

“SETSAN ... needs to be autonomous and to go out of the Ministry of Agriculture because as for now, SETSAN responds directly to the Ministry, and the Ministry does not have autonomy at the provincial and district levels to command ... SETSAN cannot go to the province and say to the Governor: “Where are the results? What were we not able to achieve?” ... I agree there has been some progress, but we should also check if we could advocate so it (SETSAN) becomes an independent entity with autonomy.”
(Representative of a NGO, $r=0.84$)

One more time, this group appears to believe that a change in the current structures would lead to a different authority of SETSAN and consequently produce distinct outcomes. In terms of functions for SETSAN, participants loading high on factor C agreed that SETSAN should be “following-up with concrete actions on the decisions taken by the GT-PAMRDC” (#33: 1, 2, 2, 2) and “advocating for increased political awareness regarding the PAMRDC” (#32: 2, 1, 2, 3). They also disagreed a little that SETSAN should be “collating the data from all sectors together for reporting to higher level” (#34: 0, 2, -1, 1), “developing and implementing some

interventions” (#29: -1, 2, -1, 1) and “arranging for technical or managerial assistance” (#30: 1, 0, -1, 0).

In terms of SETSAN’s capacity, on the one hand, they agreed that SETSAN was currently capable of “advocating for resource mobilization (from donors) regarding the PAMRDC” (#43: -2, -2, 2, 0). On the other hand, they disagreed that SETSAN was currently capable of “following-up with concrete actions on the decisions taken by the GT-PAMRDC” (#45: 0, -1, -2, 0), “developing and implementing some interventions” (#41: -2, 0, -2, -2), “analyzing survey data” (#37: -2, -1, -2, 1) and “collecting data on process indicators ...” (#36: -2, 0, -2, -2). Also related to capacity, people in this group disagreed that the overall capacity of all sectors for planning was sufficient to be functional (#48: -3, -3, -2, -2). This participant explained in which area the capacity was limited:

“I think often the planning is the challenge, they (people at the provincial level) sort of know what they want to do, but it’s putting it in a structure format and putting deadlines on it, and timelines, and linking with... I think that’s actually where people have challenges ... area for planning, time management, reaching their goals, setting your objectives. I think all that is actually quite of a challenge, and there needs to be some capacity-building.” (Representative of a NGO, $r=0.65$)

Finally, contrary to the other groups that agreed to higher degrees that the ideal political person to ensure authority and request information about the PAMRDC was the Prime Minister, factor C was more neutral regarding this statement (#2: 3, 3, 0, 1). This participant expressed why not agreeing with this statement:

“Yes, I think that things cannot be connected to one person. He is Minister today but tomorrow he will not be Minister. This is a major problem in this country. Today, the Government is X, but tomorrow it can change, and this is a major problem because the plan will stop. ... He (the Prime Minister) can advocate during the process, but there is a need to have an entity outside of the Ministry of Agriculture that can respond for this whole process. He can advocate at another level, at the level of the President of the Republique, of the other Ministers, to have autonomy to be able to take action at the level of the Ministers, to have autonomy to do and not have to wait for the Prime Minister.” (Representative of a NGO, $r=0.84$)

The fact that individuals can change position quite rapidly was evoked as another reason to emphasize the importance of developing the right structures and mechanisms for the implementation of this multisectoral action plan.

Overall, this group was clearly concerned with the development of different structures and mechanisms to facilitate coordination and to improve communication between the government and donors. People in this group were also characterized by their practical approach in order to move things forward. They believed in the importance of targeting high-level people to influence and establish the structures that would give SETSAN an increased authority to carry out the work of coordination at different levels, which appeared to be a critical limiting factor.

Factor D: the people-centered perspective

This group is comprised of three people and explains 6% of the total variance. Participants loading the highest and statistically significantly on factor D appeared especially concerned with issues related to coordination, similarly to factor C. One of the most disagreed statements was the one stating that people did not want to be coordinated (#7: 0, -2, -3, -3). One participant of this group considered that rather than not wanting to be coordinated, people were instead not clear on the meaning of coordination:

“I do not think it is true (that no one really wants to be coordinated). My problem is regarding coordination. We need to be clear on the objectives of coordination, why and how we are coordinating. It is not enough to only say “we are coordinating.” It is necessary that people say: “yes, we are coordinating, what does it mean?” ... “I use knowledge or information from the health sector to orient my intervention in the area of agriculture for a certain objective. So I need to be clear when I go to those mechanisms, those forums for coordination, what am I looking for?” ... “I want to carry out interventions in the area of chronic undernutrition and I am clear on what is my role in this sense to end with ... chronic undernutrition. So this way, I will get benefits from coordination if I am clear on what is my role in this.” Many times, I think the motivation for coordination is also little because of a lack of clarity from people regarding the different institutions ... what is the contribution of one sector for a determined objective?” (Representative of a UN agency, $r=0.67$)

A lack of understanding on the meaning of coordination represents an important challenge for an institution like SETSAN, in charge of coordination. Indeed, it is difficult to carry out an effective coordination when people are not clear on what this involves. Meeting the expectations of relevant actors regarding coordination is also unlikely when such a lack of understanding exists. This perspective differs somewhat from what a factor C participant said when mentioning there was no coordination. Referring to the 12 functions for SETSAN that were included in the Q sample can help further explore this point. Out of the 4 groups, factor D gave the highest overall ranking to the functions they believed SETSAN should perform. Indeed, factor D gave a total of 13 points out of a possible maximum of 36 points and minimum of -36 points (compared to 4 for factor A, 11 for factor B and 5 for factor C) as presented in **Table 30**.

Table 30: Ranking of potential functions for SETSAN

Factor	Factor A	Factor B	Factor C	Factor D
SETSAN should ...				
23 : collecting and analyzing data on nutritional outcomes	-1	1	1	1
24: collecting data on process indicators	1	1	0	2
25: analyzing survey data	-1	0	0	0
26: collecting, analyzing, and interpreting raw data (from all sectors)	-2	1	0	0
27: identifying to items to be discussed, preparing the agenda and next steps	2	0	1	1
28: leading the mapping of the interventions	1	1	1	0
29: developing and implementing some interventions	-1	2	-1	1
30: maintaining supportive communication with each sector and technical assistance	1	0	-1	0
31: advocating for resource mobilization (from donors)	1	1	1	2
32: advocating for political awareness	2	1	2	3
33: following-up with concrete actions	1	2	2	2
34: collating the data from all sectors for reporting	0	2	-1	1
Total (Possible range from -36 to +36)	4	11	5	13
SETSAN is current capable of ...				
35: collecting and analyzing data on nutritional outcomes	-3	-3	0	-1
36: collecting data on process indicators	-2	0	-2	-2
37: analyzing survey data	-2	-1	-2	1
38: collecting, analyzing, and interpreting raw data (from all sectors)	-1	-1	0	0
39: identifying to items to be discussed, preparing the	0	0	-1	1

agenda and next steps				
40: leading the mapping of the interventions	-1	0	1	-1
41: developing and implementing some interventions	-2	0	-2	-2
42: maintaining supportive communication with each sector and technical assistance	-2	-1	-1	-1
43: advocating for resource mobilization (from donors)	-2	-2	2	0
44: advocating for political awareness	-1	-2	-1	0
45: following-up with concrete actions	0	-1	-2	0
46: collating the data from all sectors for reporting	-1	-1	-1	0
Total (Possible range from -36 to +36)	-17	-12	-9	-5

Those scores are surprisingly low and do not provide clear information on the functions that the coordination institution should perform. However, some relevant observations can be made. There are several functions that all the groups agreed that SETSAN should perform and those are discussed further in the convergence section. Nonetheless, there is only one group that strongly agreed with one function that SETSAN should perform (factor D) and this function was also the strongest agreed among all the groups; it was that SETSAN should be “advocating for increased political awareness regarding the PAMRDC” (#32: 2, 1, 2, 3). This is not surprising because participants in factor D appeared to believe in the importance of having high-level political people on board in the fight against chronic undernutrition. The latter function for SETSAN is also supported by their strong agreement with the statement that high-level political people do not understand well the meaning, causes or consequences and what could be done about chronic undernutrition (#1: 2, 3, -3, 3). Although the discourse of factor D was not geared toward political issues the way factor B was, factor D still believed political people should be targeted for advocacy. One participant explained further why a function of advocacy for SETSAN was important:

“... there is a problem. Even if the plan is multisectorial, the sectors are not very conscious about the function of their sector regarding the reduction of chronic undernutrition ... They (SETSAN) have a function of advocacy.” (Representative of a UN agency, $r=0.67$)

Regarding other functions for SETSAN, participants in this group agreed the most that SETSAN should collect data on process indicators regarding the multisectoral work (#24: 1, 1, 0, 2). They also agreed that SETSAN should advocate for resource mobilization (from donors) regarding the PAMRDC (#31: 1, 1, 1, 2) and follow-up with concrete actions on the decisions made by the GT-PAMRDC (#33: 1, 2, 2, 2). To a lesser extent, they agreed a little that SETSAN should develop and implement some interventions (e.g. mass campaigns on chronic undernutrition) (#29: -1, 2, -1, 1). On that end, although the ranking for this statement was different from the one from factor A, one participant from factor D who mentioned that the functions of coordination and implementation for an institution were not compatible expressed a similar opinion:

“...personally, they (SETSAN) have more a function of advocacy. I understand campaigns as a mechanism for advocacy. It is good for the question of nutrition to be present among decision-makers ...(but) a campaign for families in communities, I do not believe it is a function for SETSAN. The messages need to be according to the realities, which is an intervention at the community level. They (SETSAN) can coordinate ... they can organize information-sharing between the different partners that are doing this (carrying out interventions), but I don't think they (SETSAN) have the capacity or availability to do this. SETSAN is, at the central or provincial level, a mechanism for coordination, not a mechanism for implementation.” (Representative of a UN agency, $r=0.67$)

Therefore, participants loading high on factor D clearly expressed that a primary function for SETSAN was advocacy regarding the problem of chronic undernutrition and the PAMRDC.

Regarding SETSAN's capacity, this group was the most optimistic, or the least pessimistic, when considering the scores of the statements as a whole. Indeed, this group gave the highest overall ranking for SETSAN's capacity, which was -5 points out of a possible maximum of 36 points and minimum of -36 points (compared to -17 points for factor A, -12 points for factor B and -9 points for factor C). Those overall rankings in the negative express a very low confidence in SETSAN's capacity to carry out the 12 functions mentioned. On the positive side,

this group agreed a little that SETSAN was capable of “analyzing survey data” (#37: -2, -1, -2, 1) and “collating the data from all sectors together for reporting to higher levels” (#46: -1, -1, -1, 1). Despite being the most optimistic regarding SETSAN’s capacity, people loading high on factor D disagreed with the statement that the decision of the Council of Ministers to assign the coordination of the implementation of the PAMRDC to SETSAN was a good decision (#18: 2, 3, 2, -2). This may be a little surprising considering that all the other groups ranked this statement positively when they also ranked lower SETSAN’s capacity, but other reason may explain this ranking. No one from factor D commented on this statement; however, at least one person from each of the other groups mentioned that the decision was good because of the use of existing structures. In the same line, factor D disagreed a little that “the reporting regarding the activities of the PAMRDC should be done through SETSAN, from provincial (multisectoral group) to central level (GT-PAMRDC) (#10: 2, 2, 1, -1). In addition, their scoring for another statement expresses a similar opinion:

#9: “Despite some problems, SETSAN may have had to date, it holds considerable value from a policy perspective as it creates the institutional framework, or “home”, for nutrition at the national level; it legitimizes nutrition as a national development priority and creates a window of opportunity for dialogue, resource allocation and monitoring of implementation.” We should aim to increase its capacity to effectively carry out this role. (2, 2, 0, -1)

Therefore, this group appears very critical regarding the decision of having SETSAN be the institution in charge of the coordination of the PAMRDC. Of relevance, people associated with this factor had a different view regarding SETSAN compared to the three other factors, which is depicted by the fact that out of the 11 distinguishing statements for factor D, 9 were related to SETSAN (compared to 5/10 for factor A, 5/10 for factor B and 3/12 for factor C), highlighting the importance of SETSAN in the description of this factor and distinguishing this perspective compared to the three other ones.

Another feature of this group is their perception of the FSN community (distinguishing statement):

#13: Currently, Mozambique experiences unprecedented momentum in the growing attention paid to the importance of improving Nutrition and Food Security. The Food Security and Nutrition community is well organized, cohesive and speaks as one voice, which will help in continuing this momentum. (0, 0, 1, -2)

People in all groups mentioned agreeing with the first sentence about the existence of a momentum in nutrition. However, a participant from factor D mentioned not believing that the FSN community was well-organized and speaking as one voice. In fact, this participant instead referenced to two communities: one nutrition community and one food security community, and explained further:

“... Nutrition (community) does not understand very well the needs of agriculture and agriculture also the same with nutrition. I think the deficit is from both parts ... Everyone tends to see his own side, which is natural, but it is also necessary that we seek to understand better what agriculture is, what are its own challenges, what are its perspectives? Maybe it does not respond to nutrition in the country in this moment, and vice versa. This holds for all the different sectors, so I don't believe it (the nutrition and food security community) is well structured, that we are cohesive and represent one voice.” (Government representative, $r=0.59$)

The certain division expressed in this quote, of considering having two communities, is also reinforced when considering the ranking for #16: this group agreed that the FSN community experienced some divisions:

#16: “The Food Security and Nutrition Community in Mozambique faces a variety of divisions in terms of perceptions on “what” should be done (interventions) and “how” the selected interventions should be implemented. Something should be done to build on commonalities and try to decrease differences.” (1, -2, -2, 2)

In the latter statement, the division expressed is regarding a different point, however, it suggests that actions should be carried out to address those divisions. One participant gave more details on this challenge and proposed ways that could help in reaching a more cohesive community:

“We tend to do our meetings isolated, but we need to acquire a better understanding of the different parts and speak with a lot of honesty. When we meet, we are always careful to not offend or hurt. When there are meetings, even in meetings between different parts of Government and partners, there is a certain preoccupation to not hurt because it is a donor, because we do not want to create problems, or because of own interests. So there is a need to study more on the topic. I don’t know if studying more on the topic means doing more meetings, maybe doing more workshops, involving more people. This may be one way but not the only one. Everyone needs to do the exercise of searching more information and trying to create spaces for dialogue with more honesty where people can discuss real problems. But each of the real problems should be well worked out, well understood by everyone and ... (there is a need to) define concrete actions to move forward. I think this is it.” (Government representative, $r=0.59$)

Therefore, people associated with this factor appear to believe that work depends somehow on individuals: even if the (optimal) structures are not in place and the (optimal) processes carried out, people can help move everything forward. This aspect is also illustrated when this participant mentioned that despite the proposed structure of the CONSAN being rejected, the nutrition and food security community could use strategic actions to strengthen commitment, coherence, consensus and/or coordination in regards to the PAMRDC (#4: 3, **1**, **-1**, 2):

“I think yes. I think (the inexistence of)... the CONSAN does not hinder the implementation of things because in reality, it depends of individuals. The individuals can always be mobilized even if the structures are not in place. The positive aspects are that the Government currently allows dialogue and there are good points (people) in each of the structures to help moving forward.” (Government representative, $r=0.59$)

Considering this comment, it is not surprising that factor D also ranked among the highest the statements regarding skills (5 out of a maximum of 9 points and minimum of -9 points for the three skills mentioned), as factor B did too. People loading high on factor D appeared to believe that individuals bear an important part of the responsibility in the development of actions, or at least, they can be the solutions and highly contribute to a change in the course of actions to move forward with the implementation of the PAMRDC. This group also appeared to doubt that the decision of SETSAN having the mandate of the coordination for the implementation of the

PAMRDC was optimal. While people of this group ranked the most positively SETSAN's capacity to carry out several functions, their scores on the functions SETSAN should play regarding the PAMRDC were the lowest. The reasons for the opinions of this group regarding SETSAN are unclear and may need further exploration.

Overall, factor D appears to be concerned mainly with issues regarding coordination. Differently from factor C that focused on the development of structures and mechanisms, factor D emphasized the importance of individuals for coordination. Participants associated with this factor believed that there was a need to improve people's skills and mobilizing them to compensate the structures and processes that might be sub-optimal for coordination. Nonetheless, participants associated with this factor still believed that SETSAN had some capacity to play several functions regarding the PAMRDC; in fact, they were the most optimistic about the overall capacity of SETSAN to play the mentioned functions.

Convergence of perspectives

Among the four different perspectives identified within this policy community, the results revealed a substantial degree of agreement on several points. **Table 31** presents the correlations between the four factors. The interfactor correlations ranged from 0.23 to 0.51 with an absence of negative correlation; thus, there was considerable convergence among the 4 perspectives with factors A and D being the most correlated and factors C and D being the least correlated. The identification of the areas of convergence among the different perspectives is of particular importance because it can help determine the space of agreements in terms of what the main challenges are and some types of strategies to address them, which can lead to productive actions. Both the consensus statements, which are the statements that do not distinguish between any pair

of factors, and the statements ranked similarly were retained for the identification and description of the main areas of convergence.

Table 31: Correlations between Factors

	Factor A	Factor B	Factor C	Factor D
Factor A	1.000	0.4632	0.3457	0.5095
Factor B	0.4632	1.000	0.2472	0.3679
Factor C	0.3457	0.2472	1.000	0.2328
Factor D	0.5095	0.3679	0.2328	1.000

Table 32 presents the main areas of convergence among the four perspectives and potential strategies proposed to address several main challenges.

Table 32: Main areas of convergence among the four perspectives and potential strategies proposed to address challenges

Areas	Description
1) Group functioning	<ul style="list-style-type: none"> • Inconsistency in people's attendance to meetings of the different groups compromises the follow-up and quality of the work and produces unnecessary delays; • It also alters the way people interact in the group (relationships); • Participants believed that the responsibility to address the problem was individual and organizational. <p>Potential strategies</p> <ul style="list-style-type: none"> • Individual and personal follow-up using informal ways (such as making phone calls when meetings are very important); • Organization may assign a group of 2-3 individuals to important projects, but these individuals need to communicate among each other for follow-ups; • Make decision with the people present at the meetings and move on (without coming to the decisions in subsequent meetings); • Document the whole process including the decisions made, and share it with relevant actors; • Apply positive and negative incentives for people to participate in the meetings of several groups.
2) Planning capacity in the provinces	<ul style="list-style-type: none"> • Limited planning capacity at the provincial level; • Low capacity at the provincial level does not necessarily means a lack of training (it can be an insufficient number of human resources). <p>Potential strategy:</p> <ul style="list-style-type: none"> • Advocate increasing the numbers of human resources at the provincial level in planning and other areas.
3) Skills for good coordination	<ul style="list-style-type: none"> • Communication skills (constructive, effective, constant) are necessary; • Facilitation skills (creating a safe space for facilitating dialogue, good listening of different viewpoints, seeing the big picture and organizing a process to reach

	<p>a certain point) are also necessary;</p> <ul style="list-style-type: none"> • A great majority of comments regarding skills were positive with an emphasis that more of those among actors would greatly improve coordination; • Doubt expressed regarding the possibility of improving skills only by training.
4) Functions for SETSAN	<ul style="list-style-type: none"> • Lack of clarity and agreement about the functions that SETSAN should play regarding the PAMRDC, except for the following: <ul style="list-style-type: none"> 1) Advocate for increased political awareness regarding the PAMRDC 2) Follow-up with concrete actions on the decisions taken by the PAMRDC 3) Advocate from resources mobilization from donors regarding the PAMRDC • There is a need to better define and agree on the specific functions that the institution in charge of coordination should play, especially regarding coordination itself.
5) SETSAN's capacity	<ul style="list-style-type: none"> • Agreement that SETSAN had an overall very low capacity to play the 12 functions presented; • However, the opinions for each of those functions were very different among the perspectives; • Despite limited capacity, a majority of participants were pleased with the decision of SETSAN having the mandate of the coordination and implementation of the PAMRDC. <p>Potential strategy:</p> <ul style="list-style-type: none"> • Mentorship: have consultant(s) who can coach staff from SETSAN while they are doing the work and acquiring experience and skills instead of the consultant's carrying out the work.
6) Funding challenges	<ul style="list-style-type: none"> • Complications in allocation of funding to nutrition activities that are often within packages of interventions; • Difficulties in the development of direct funding lines for nutrition; • Limited understanding of the political processes and the funding system as a whole from the main actors involved; • In-house capacities of each donor and priorities established by their own government influence the funding priorities in-country; • Importance of the Government of Mozambique to decide priority interventions within the plan, which will help donors to decide their own funding priorities in the recipient country.

Group functioning

The first and strongest area of convergence among the 4 perspectives regarded an aspect of group functioning. All factors strongly or moderately disagreed with the following statement (ranked similarly):

#54: "The fact that not always the same people come to the meetings of different groups (ex.: GT-PAMRDC) is not a problem as there is generally a good follow-up between meetings." (-2, -3, -3, -3)

This high disagreement with the statement is indicative of the important challenge of the inconsistency in people's attendance to meetings of the different groups working for the operationalization and coordination of the multisectoral action plan, as commented by several participants:

“Yes, this is a chronic problem, yes... it always looks like we are going a little backward from one technical meeting to another technical one.” (Representative of a NGO, factor A, $r=0.65$)

“I see it with every meeting that we have here. You know, it is a problem because you can't move forward as a group if every time, you have to revisit issues and decisions made before because people are not consistent...” (Representative of a NGO, factor C, $r=0.65$)

“Today, a certain José comes, representing institution X. We talked about a specific topic and we left recommendations for the following meeting. At the next meeting, a certain Maria comes, she does not know what we have talked about at the first meeting because of a lack of follow-up. The fact of changing people completely alters the way people are in the group. When we know each other, for example, I know when this person does that, it is because she does not like when we work this way. The more we know each other, the higher the quality of the work we get.” (Government representative, factor A, $r=0.66$)

This last participant clearly expressed how this challenge is likely to affect the overall work, especially if this happens regularly and in many groups. Such a recurrent problem can have considerable adverse consequences on the quality of work that is done for the coordination and operationalization. Finding solutions or at least ways to mitigate the consequences may be productive and several participants proposed potential solutions:

“Maybe, instead of having one person, (we could) have a group of 2 or 3 people. However, even if you have 2 or 3 people, if at this meeting, I go and you do not go, when I come back, if I do not tell you what was discussed, then, at the next meeting, if you go, you do not know anything either.” (Representative of a NGO, factor A, $r=0.65$)

The proposal of this participant emphasized the importance of individuals to take responsibility and ensure follow-up. However, there is also the belief that organizations have a certain responsibility. For example, when the functioning of an organization does not favor that individuals are assigned to projects or if they do not have much flexibility to attend and

participate in specific working groups, there are some barriers to continuity in the work of a group. This participant mentioned it and proposed a way to act upon this problem:

“... as always, the risk that there are a lot of meetings and nothing actually comes out, follows-up, so that’s always a challenge ...and that decisions are made, that’s how this whole issue comes about. The same people being in the meetings, I think especially in the government side, that has not been consistent and it needs to be because otherwise, if every time at every meeting we have to go back ... decisions can’t be made because not everybody is there or decisions that were made, you then have to explain it again to the people because, why is it this and not this. You just have your meetings revisiting the same issues and then you never get anywhere so I think that is a huge huge challenge. Just at some point, ... you just have to say “this is what we’re going to do,” and you just do it, and then monitoring what we do, of course.” (Representative of a NGO, factor C, $r=0.65$)

Therefore, a proposed strategy is to make decision, even if not everyone agrees in order to move forward. This participant from factor C had a somewhat authoritative attitude: she/he does not want to get stalled in such circumstances and wants to act upon the problem, which reinforces the practical side of factor C. This same participant also proposed a strategy to help increasing participation and continuity:

“You can, in an informal way, try to discuss with colleagues that are at their level, try to say: “look, it’s so important”... There are informal ways to try to encourage people to come, even if it is with a quick phone call ... If I think I can’t come to a meeting, but I have person X or person Y calling me and say: “look, it would be good if you come,” I’ll make that effort to go then. I think it helps if people have that personal follow-up, so maybe something worth trying. I know with this formality with government that you can’t always control. People can’t go sometimes because they didn’t get the letter or whatever. It’s not so easy for them to answer a phone call and go but I think we have to try, make it a bit more personal. We’re a small enough group that we can make that personal follow-up.” (Representative of a NGO, factor C, $r=0.65$)

Therefore, individual and personal follow-up could be an effective strategy to increase people’s participation and follow-up through informal ways or formal communication channels.

Another strategy was proposed that could help giving continuity:

“... I do not know why not much is documented because we begin a process and when it’s time to talk, people are afraid to show and say what is important in this whole process. I think documenting this process is very important.” (Representative of a NGO, factor C, $r=0.84$)

Finally, applying positive or negative incentives for people to participate in the meetings of several groups was another strategy proposed.

Planning capacity in the provinces

A second area of convergence was the opinion that the planning capacity of human resources in the provinces was limited (statement ranked similarly):

#48: “At the provincial level, we could always benefit from having more capacity but in most provinces the overall capacity of all sectors for planning is enough to be functional and move forward with the steps expected from the central level for the implementation of the PAMRDC.” (-3, -3, -2, -2)

Many people commented that there was an already limited and low planning capacity at the national level, thus, it was worse when going down the administrative levels like at provincial and district levels. Someone from factor D who worked for the government made an important comment on that statement:

“In all the meetings about coordination, when we talk about the difficulties, we always want to increase the opportunities for the provinces and for the districts, but the people in the provinces and the districts continue to be the same, and there is no increase in the number of people. ... all interventions include actions for capacitation, but even if someone is capacitated, this person cannot do everything that is expected. In fact, we need to identify ... a way to increase what is required in terms of the number of human resources at the provincial and district levels.” (Government representative, factor D, $r=0.59$)

When considering that the implementation of the PAMRDC involves multiple actions at the different levels, training current staff on specific topics could be helpful but addressing other aspects such as increasing the number of people appear crucial to improve the overall capacity of the system.

Skills for good coordination

A third area of convergence among the groups regarded the skills needed for coordination. One of the most agreed consensus statements was that the 4 factors agreed that communication skills were necessary, as presented in the specific statement:

#20: Certain skills are necessary for good coordination. Those skills include communication skills (constructive, effective, constant). Regarding the PAMRDC, it is important to provide training to improve the skills of those who (will) play the role of facilitator for the coordination at the central and provincial levels. (1, 2, 2, 2)

Thus, participants believed that communication skills were important and there was a need to provide training to further develop those skills. Many people mentioned that they would have liked to strongly agree with all the statements related to skills (facilitation, communication, negotiation and conflict management) but they decided to favor only one skill over the others as a strategy to leave space in their Q sort for other issues they considered important. Such strategy is likely to have under-represented how skills were important for participants in all groups, as illustrated by the following quote:

“I would like to agree with all of them, but it was not possible to agree with all of them. In view of that, I think facilitation is the thing that covers the most what is important because ... it covers practical things on how to run a meeting, facilitate a meeting, make sure everybody is heard, make sure that things run smoothly. That also entails communication, for me, at least, and it entails some level of negotiation and conflict management skills so to be a good facilitator, you need to have those skills. I think it's actually crucial, it's something that we lack...” (Representative of a UN agency, factor A, $r=0.62$)

Besides communication skills, facilitation skills (#21: 2, 2, 0, 2) were also judged to be important, even if not a consensus statement: the statement received a considerably positive score especially considering the under-representation of skills as illustrated by the above comment. Also regarding skills, a participant expressed a certain doubt about the possibility of improving skills only by training, and that considerations should rather focus on recruiting staff with the desired skills whenever possible. (Representative of a donor organization, factor A, $r=0.71$).

Functions for SETSAN

A fourth area of convergence refers to several functions that participants agreed SETSAN should play. The 4 factors ranked positively and somewhat similarly that SETSAN should advocate for increased political awareness regarding the PAMRDC (#32: 2, 1, 2, 3) and follow-up with concrete actions on the decisions made by the GT-PAMRDC (#33: 1, 2, 2, 2). In addition, although to a lesser extent, the ranking of several other statements expressed a trend in agreement: SETSAN should advocate for resource mobilization from donors regarding the PAMRDC (#31: 1, 1, 1, 2), lead the mapping of the interventions for planning purposes at the provincial level regarding the PAMRDC (#28: 1, 1, 1, 0), and identify the items to be discussed, prepare the agenda for meetings of the multisectoral group and ensure the identification of next steps (#27: 2, 0, 1, 1). Considering that those statements were the highest ranked, there was no unequivocal and strong agreement about some functions that SETSAN should play regarding the PAMRDC. Nonetheless, when adding the scores for the 12 functions proposed for SETSAN, the total value for each group was in the positive side of the possible range (4 for factor A, 11 for factor B, 5 for factor C and 13 for factor D), indicating that participants thought SETSAN should play several of the presented functions (as shown in **Table 30**).

SETSAN's capacity

A fifth area of convergence was an agreement that SETSAN had an overall low capacity to play the 12 functions included in the Q sample. Despite there was no consensus statement among the groups on SETSAN's capacity to carry out specific functions, the overall ranking of each of the 4 groups for SETSAN's capacity regarding the 12 functions was very low and in the negative side of the possible range for all groups (-17 for factor A, -12 for factor B, -9 for factor C and -5 for factor D) as illustrated in **Table 30**. Nonetheless, a majority of participants agreed

that it was a good decision that the mandate of coordination and implementation of the PAMRDC was assigned to SETSAN by the Council of Ministers (#18: 2, 3, 2, -2) with the exception of factor D. However, it is still noteworthy mentioning that for this statement, overall, 13 participants were on the positive side, 5 were neutral and only 3 were on the negative side, indicating that still a majority of participants were optimistic about SETSAN having this mandate, despite some limitations. Comments also emphasized the importance of finding ways to improve SETSAN's capacity through, for example, technical assistance based within SETSAN to support them. A type of mentorship was proposed in which consultants could coach SETSAN's staff while they were doing the work instead of the consultants doing it for them, as it was often the case with technical assistance.

Funding challenges

A sixth area of convergence was the belief that certain difficulties were experienced regarding donors and funding. There was a trend of disagreement among the 4 groups with the following statement about the funding lines (statement ranked similarly):

#19: The lines for the funding of nutrition activities at the provincial level are now functioning well (disbursement, accountability), which will facilitate the implementation of many activities of the PAMRDC. (-3, -1, -2, -3)

Several participants commented on why disagreeing with this statement, shedding light on some of the challenges experienced. One challenge was that nutrition interventions are often within packages, which complicates how funding is allocated to nutrition, as expressed by this participant:

“... the nutrition interventions are still in a package. We do not have many activities where ... I can identify that this is my funding line for this activity (nutrition). Within one package, we do urban agriculture, and within urban agriculture, the question of nutrition education exists... Also, sometimes, the activities are so interlinked that it is difficult to separate them...” (Representative of a UN agency, factor D, $r=0.67$)

Of relevance, a participant also mentioned one disadvantage of having nutrition activities within intervention package: it is not possible to know from one year to the next one if funding is increasing or not (like it is possible to know in the area of HIV/AIDS). This other participant exposed an additional important consideration concerning funding:

“... There is one experience that showed that the money got there (to the provincial level) but this is the first thing, that the money get there. Then, there is also the use of the money... we already have enough examples (of challenges) ... it is not because the budget line exists that the money gets to this budget line, and that the planned activity is financed... so there is a lot to do on this.” (Representative of a donor organization, factor A, $r=0.71$)

Another participant elaborated on the challenge of developing and putting direct funding lines for nutrition activities in place:

“... it's difficult because I don't think people really know how to do it, like donors don't know how to do it It's like, “yeah, we want a budget line for nutrition in every provincial plan.” We can say that, but then who do we go and say that to? Do they know how to do it and do they have the mandate to make that decision? I'm not being aware of that. Since provinces have a parliament... so it is a political process, so I don't think we have a very good understanding of that whole. How do we work? How do we lobby provinces to actually get them to create mechanisms for us to be able to fund them? Also, I think it is essential to make them ask for funding at the central level. It's a government co-funds, that's the thing that is essential. It's not always donors that come to implement the plan. We need to ensure ownership and sustainability. We really need central level of the Government to fund parts of the plan, at least to commit to it, financially, not only by political... so I think we really need some more knowledge in that.” (Representative of a UN agency, factor A, $r=0.62$)

Practical knowledge on the “know-how” appears to be a limiting factor to the establishment of funding lines for nutrition. Thus, there are many considerations and challenges regarding the funding of nutrition-related activities in the provinces. An additional difficulty was concerning the funding alignment between donors, as expressed by the score of this consensus statement:

#51: “The donor community in nutrition is generally well aligned to provide funding that complements each other for the support to the PAMRDC, but they still have a lot of improvement to make in this regard.” (-1, -1, -1, -2)

All comments on this statement were that participants disagreed that the donor community was generally well aligned and they thought improvements were needed. Someone also mentioned that the Nutrition Partners Forum was in an early-life stage and the discussions about funding had so far been limited. However, this participant expressed that, at a later stage, donors may increase communication and collaboration to have their funding complementing more each others regarding the PAMRDC. Nonetheless, the limitation of donors needing to comply with priorities established by their own government was presented as an important difficulty to overcome regarding the flexibility of funding. It was also added that donors had “certain capacities in-house” that were likely to influence funding priorities. A final consideration in terms of funding was emphasized by a participant from a donor organization:

“...there is still a lack of coordination among donors to say: “the priorities in this plan are the following.” We (need to) agree to put in place those priorities because if we leave it this way, we will move ahead and take the small part (of the plan) that suits us and implement it.... There is a lot of work to do at the coordination level on this.”
(Representative of a donor organization, factor A, $r=0.71$)

This participant believed donors should agree on priorities for funding and information should be gathered to know what parts of the plan were already funded. S/he further explained that it was important for the Government to decide priorities of interventions because those decisions would help donors make their own decisions about funding priorities. In sums, several challenges were experienced with funding.

Desirability of the Prime Minister becoming a leader

Another area is worth mentioning although this point was not unanimous. A majority of participants would like the Prime Minister to become the chair-person to oversee the implementation of the PAMRDC. There was also the belief that it was crucial to have him on board for the PAMRDC, but not sufficient. This is illustrated by the statement saying that the

ideal political person to ensure authority and request information regarding the PAMRDC was the Prime Minister (#2: 3, 3, 0, 1). Although not a consensus statement, it is noteworthy that 15 out of 21 strongly agreed or agreed with this statement, reflecting a favorable opinion. In addition, the following consensus statement illustrates a certain convergence of disagreement among factors:

#3: “It is fine and good to get the Prime Minister’s support for and oversight of the PAMRDC but in reality he will not be able to force the ministries to make significant changes only for the purpose of improving nutrition.” (-1, -1, -1, -2).

Thus, participants appear to believe that the Prime Minister has a certain power over the different ministries, but a limited one. Nonetheless, most comments made were favorable regarding the Prime Minister, highlighting the importance of his involvement. The two participants from factor C who had some doubt about this statement included one person who believed that the ideal person would be the President and another one who mentioned that the challenge in the country was that the Prime Minister of today may change tomorrow.

Positive attitude and importance of results

Finally, besides the specific consensus statements and statements ranked similarly, participants overall expressed a lot of optimism regarding the implementation of the PAMRDC. Although they acknowledged numerous challenges, they recognized that significant advances had been achieved regarding the PAMRDC and in nutrition. Several participants pertaining to different groups emphasized the importance of showing results to move forward different aspects of the implementation of the PAMRDC. For example, donors could be convinced to invest and/or continue investing in the PAMRDC:

“There is a timidity. They (donors) will put money, but there is a timidity ... If we carry out activities and the level of undernutrition begins to fall, the donors will open (funding), and this can happen. This comes with advocacy, but it can also come with an acceleration of the implementation. ...” (Government representative, factor B, $r=0.58$)

This other participant believed that showing results could also convince politicians:

“I also believe that sometimes it’s the implementation that actually can show the way forward. That you can convince politicians about certain coordinating structures, by actually giving them evidence from implementation.” (Representative of a donor organization, factor A, $r=0.66$)

Disciplines and areas boundaries

There was also a feeling expressed by several participants that something should be done regarding the boundaries between disciplines and areas. As mentioned by participants from factors A and D, there was a feeling that people in nutrition do not quite understand agriculture and vice-versa. Several people working in nutrition also admitted their limited knowledge about initiatives in agriculture such as the CAADP, not because of a lack of interest, but rather a lack of time and opportunities. In addition, one participant working in agriculture admitted a similar limitation from her/his field:

“In my area of agriculture, very often, I think that when I am doing agriculture, I am contributing to nutrition. Extremely wrong! I can contribute, but I also can not contribute.” (Government representative, factor B, $r=0.58$)

This point is of high importance considering that the PAMRDC is a multisectoral action plan so people from the different sectors may have a limited understanding of the factors contributing to an optimal nutrition. Understanding how people’s own work and field can contribute to the reduction of chronic undernutrition appears crucial; this was raised by several participants of this policy community. Therefore, opportunities to cross boundaries (and desire to take time and advantage of) and education tailored to the different sectors appear to be needed to make sure the multiple workers involved in the coordination and operationalization of the PAMRDC do understand their role in the fight against chronic undernutrition.

Divergence of perspectives

Among the four perspectives, the results also revealed a divergence of opinion regarding several issues, which is of interest because those issues could produce tensions and even conflicts among people from the different groups. Better understanding the divergent opinions can also give insights into areas that could be discussed or strengthened. The in-depth analysis of the qualitative data from the interviews was essential to differentiate the profound divergence from the surface ones besides just looking at the scores produced by the statistical software and the variance across Z-scores. **Table 33** presents the main areas of divergence among the four perspectives. Several points of divergence were already discussed when describing the various factors; thus, in such a case, only the essential points are briefly exposed here.

Table 33: Main areas of divergence among the four perspectives

Areas	Description
1) Guidance from central level to provincial level	There was a broad range of opinions regarding the guidance that the central level should provided to the provincial level, from no guidance to the definition of steps and the development of an operationalization guide.
2) Value of SETSAN	A majority of actors valued SETSAN and were pleased that the institution received the mandate of coordination of the implementation of the PAMRDC. However, a small subset of people expressed a certain disagreement (factor D), which make this point an area of divergence.
3) Functions for SETSAN	There was no strong agreement nor disagreement related to specific functions SETSAN should play regarding the PAMRDC. The strongest divergence was regarding: “develop and implement some interventions (e.g. mass campaigns on chronic undernutrition) (#29: -1, 2, -1, 1) The divergence of opinions was rather in conceptions and meanings of the implementation of intervention, with the specific example of two visions for a campaign: a campaign for the population vs. advocacy work for politicians and decision-makers.

Guidance from central level to provincial level

The first area of divergence of opinions was about the guidance that the central level should (or should not) give to the provinces. People loading high on factor B had the most opposed view to the rest of the other factors, as seen in the following statements:

#15: For the implementation of the PAMRDC, the central level needs to define clearly all the steps that need to be made by the provinces. (0, -3, 3, 2)

#14: “The planning framework in Mozambique is complex due to the extensive number of planning documents involved and respective timeframes and focus... There is a major weakness in the translation of large documents of strategic operational plans with concrete actions defined to achieve objectives, with clear goals for implementer.” PAMRDC should not simply become just one more document; it must get operationalized and implemented. It is critical to develop and agree on an “operationalization guide.” (3, -2, 1, 0)

While factor B did not think that the central level should be prescriptive for the provinces, factors A and C appeared the ones favoring a guidance-based approach to orient and provide a frame to the lower administrative levels. Although factor B appeared in disagreement with statement #14, the disagreement was not about the development of an operationalization guide, rather, factor B thought a major weakness was political commitment and not the translation of large strategic plans into concrete actions. In sums, the range of opinions regarding the guidance that the central level should give to the provinces was broad.

Value of SETSAN as the coordinator

A second area of divergence among the groups was regarding the value of having SETSAN in charge of the coordination of the PAMRDC, as expressed by the ranking of the following statements:

#18: “SETSAN, in the exercise of his mandate of coordinating the formulation of policies, plans, information and interventions regarding Nutrition and Food Security in the country, was assigned by the Council of Ministers for the coordination of the implementation of the PAMRDC.” This decision was a good decision made by the Council of Ministers. (2, 3, 2, -2)

#9: “Despite some problems, SETSAN may have had to date, it holds considerable value from a policy perspective as it creates the institutional framework, or “home,” for nutrition at the national level; it legitimizes nutrition as a national development priority and creates a window of opportunity for dialogue, resource allocation and monitoring of implementation.” We should aim to increase its capacity to effectively carry out this role. (2, 2, 0, -1)

On the one side, factor D appeared the most critical about SETSAN carrying out the role of coordination related to the PAMRDC, even disagreeing with the value of the institution. This may be surprising considering that this factor gave the highest overall ranking to SETSAN's capacity, but several reasons may explain those scores. On the other side, people in all factors A, B and C mentioned that SETSAN had a certain value to become the "home" for the PAMRDC (food security and nutrition). In the same line, only factor D disagreed a little with the following statement:

#10: The reporting regarding the activities of the PAMRDC should be done through SETSAN, from provincial (multisectoral group) to central level (GT-PAMRDC). (2, 2, 1, -1)

Thus, despite some criticism toward the institution and work of SETSAN by a small group of actors working at the central level, the majority of people appeared optimistic regarding SETSAN. One participant specified further the role that SETSAN had played so far regarding food security in Mozambique:

"I think SETSAN also creates, in fact, a political base. Everyone, when we talk about food security, they only think about SETSAN. It may be good, it may be bad that people all think about SETSAN because it was the institution, it is the institution that has the vocation or the role to move forward with the food security work. (Government representative, factor A, $r=0.54$)

This institution seems to have advocated well and successfully convinced different actors in and out of the country about the importance of assessing and ensuring the food security of its population.

Functions for SETSAN

A third area of divergence was regarding the functions for SETSAN. In fact, as mentioned before, there was no clear agreement regarding any specific function that SETSAN should play

regarding the PAMRDC, but there was no strong divergence of opinion either, with the most divergent statements being the following:

#29: “Functions that SETSAN should play regarding the PAMRDC: Develop and implement some interventions (e.g. mass campaigns on chronic undernutrition).” (-1, **2**, -1, **1**)

#26: “Functions that SETSAN should play regarding the PAMRDC: Collect, analyze, and interpret raw data (from all sectors) and report writing.” (-**2**, 1, 0, 0)

Participants from factors A and C expressed a disagreement regarding SETSAN carrying out interventions such as a campaign for two major reasons:

- 1) Because SETSAN cannot be coordinator and implementer:

“We cannot have an institution that is in charge of coordination, and after that begin to implement ... those are 2 different roles and this is a big confusion.” (Representative of a donor organization, factor A, $r=0.71$)

- 2) Because this is the role of separate ministries:

“I don’t think that this [should be the role] of SETSAN because the messages need to be clear, and SETSAN is not specialist in all areas, so the people from each area need to be the one doing the campaign. SETSAN can say: “ok, it is important, pay attention, we are going to do a campaign.” It can even coordinate, but ...[the campaign] needs to be done by the institutions and sectors. ... Campaign for the population is one thing and campaign to establish a linkage with the politicians is another thing. Those are two different things.” (Representative of a NGO, factor A, $r=0.53$)

“I think actually implementing campaigns should be left to individual ministries.” (Representative of a NGO, factor C, $r=0.65$)

This issue of a campaign was a somewhat controversial topic in this community because it was a real example: the Prime Minister had asked SETSAN to plan a campaign. There were some disagreements between people in this community regarding SETSAN developing a campaign. There was a feeling that SETSAN did not have the role or the capacity to fulfill this. Although there seems to be a divergence of opinion regarding SETSAN carrying out a campaign, the analysis revealed a surprising degree of agreement in concepts but a difference in the definition of the implementation of intervention such as the example of a campaign. In other

words, people understood and used the term “campaign” in quite different ways. Primarily, the disagreement about SETSAN doing a campaign was one toward SETSAN carrying out a campaign for the population. The numerous participants who commented this statement agreed with SETSAN carrying out a campaign for politicians, which might be better described as doing advocacy for decision-makers and politicians, as expressed by this participant:

“...personally, their [SETSAN’s] function is one of advocacy. I understand the campaigns as a mechanism for advocacy. It is ok for the question of nutrition to be presented to the decision-makers. (Representative of a UN agency, factor D, $r=0.67$)

An agreement for SETSAN doing advocacy was well supported when looking at statement #32 on SETSAN playing a function of “advocating for increased political awareness regarding the PAMRDC” (2, 1, 2, 3). Thus, what appeared to be a divergence of opinion was rather a difference in conceptions and meanings of the implementation of interventions such as a campaign. It is relevant to reiterate that what is inherent to Q methodology is that participants infuse the exercise with their own meanings about the statements. The objective of the Q methodology is not to define any of the terms used, however, this divergence raised the importance of clarifying meanings and the advantage of developing a common terminology. Also, regarding the functions for SETSAN, while factor A did not think SETSAN should collect, analyze or interpret raw data from all sectors (#26: -2, 1, 0, 0), factor B agreed a little and factors C and D seemed indifferent regarding this point. Many participants mentioned this function should be left to the different sectors.

Several appearances of divergence

The mains areas of divergence are expressed above. Additional points merely appeared divergent, but instead had minimal real divergence. In some cases, there was even some convergence among factors after careful examination of the statements and comments. A first

area of possible divergence of opinion was regarding the functions that participants thought SETSAN was currently capable of playing. There were only a few statements to which all groups tended to agree, and many statements to which there was no consensus, but there wasn't substantial divergence. The major divergence of opinion was regarding the following statements:

#37: "Functions that SETSAN is currently capable of playing regarding the PAMRDC: Analyzing survey data." (-2, -1, -2, **1**)

#43: "Functions that SETSAN is currently capable of playing regarding the PAMRDC: Advocating for resource mobilization (from donors) regarding the PAMRDC. (-2, -2, **2**, **0**)

There was limited comment from participants and this divergence of opinion appeared minimal.

A second appearance of divergence of opinion was regarding the statement referring to high-level people:

#1: Several high-level people (President, Prime Minister, Ministers, Directors) know about the problem of chronic undernutrition, but as a whole, they do not seem to understand the meaning, causes or consequences and what can be done about it. While we should certainly keep advocating for high level understanding and support, I feel we can make plenty of progress even without such support and we should get on with doing what we can right away. (2, 3, **-3**, 3)

Factors A, B and D agreed that high-level people knew the problem of chronic undernutrition, but as a whole, they did not completely understand the problem and its solutions. Those groups also agreed that plenty of progress could even be achieved without their support. Several participants mentioned that high-level people often think that the main cause of undernutrition is a lack of food, but they do not understand the complexity of the problem with its multiple causes. This lack of knowledge was mentioned to be not only among high-level people, but also among the population and the workers in various sectors, including the health sector. Thus, it appears that despite the appearance of divergence of opinion, there was a large agreement that increasing awareness and education of diverse groups was essential. One participant in factor

C commented disagreeing with statement #1 because s/he believed several high-level people were already on board, giving the example that the President Guebuza was part of the SUN movement Lead Group. Therefore, the divergence of opinion regarding this statement was low and rather an additional area of convergence.

A third appearance of divergence of opinion was regarding statement #16:

#16: The Food Security and Nutrition Community in Mozambique faces a variety of divisions in terms of perceptions on “what” should be done (interventions) and “how” the selected interventions should be implemented. Something should be done to build on commonalities and try to decrease differences. (1, -2, -2, 2)

There seems to be two different opinions regarding this point. Several people referred to two communities instead of one: one nutrition community and one food security community. One of them specified further:

“... between food security and nutrition, there are those 2 groups that are different and are not rattached to the same ... Both exist within SETSAN, those are 2 groups for coordination ... that should become one group.” (Representative of a donor organization, factor A, $r=0.71$)

Not many people who disagreed with the statement commented. Thus, there appears to be some divergence, but a limited one.

A fourth appearance of divergence of opinion was regarding the CONSAN:

#4: The proposed structure of the CONSAN (National Council for Nutrition and Food Security) was rejected by the Government of Mozambique due to the opinion that it would create a heavy structure. I believe that despite this decision, the Nutrition and Food Security Community could use strategic actions to strengthen commitment, coherence, consensus, and/or coordination in regards to the PAMRDC and reach great achievement even if the CONSAN is not created. Strategic actions could include identifying allies through regular dialogue and interaction; and assigning lead roles where good people are located. (3, **1**, -1, 2)

A participant in factor C expressed a major disagreement regarding this statement because s/he did not think that the CONSAN was rejected due to the opinion that it would create a heavy

structure. In this case, the appearance of divergence of opinion seems to be an artifact due to the several propositions contained in this statement, thus, leading to an inconclusive point.

In order to understand divergence of opinions and differences at a deeper level in this policy community, going beyond the statements by examining the perspectives as a whole appear insightful. Indeed, although participants associated with the four perspectives wanted to reach similar objectives, their proposed means were distinct. For example, all of them wanted provincial plans aligned with the national plan: factor A, which wanted to provide guidance, believed there was a need for an operationalization guide; factor B, which somehow neglected operational guidelines, did not propose any specific means to reach this objective, seemingly assuming it would happen by itself with doing advocacy to politicians; factor C, which was practical, wanted a practical guidance that would take a limited time to develop (and not a process as lengthy as the one taken to develop the existing operationalization guide); factor D, emphasized that good focal point people were situated at different places in the national system and could provide support for multiple purposes such as reaching this objective. Therefore, the diverse approaches favored by people associated with the perspectives appear to influence the types of strategies, actions or interventions those groups propose or support. In other words, when participants seem to agree on an objective or an intervention on the surface, disagreement or divergence of opinions may occur when discussions take place more specifically on the definition of the actions to take.

Finally, several divergent points were delineated among those four perspectives. Most of the time, the divergent opinions were on details and meanings rather than profoundly differing views on substantive matter, emphasizing that there was rather a convergence between those four perspectives. Furthermore, the finding that people perceived differently the “implementation of

interventions” is an example of divergence that was observed and that may not seem apparent in the first place, but that can have important implications later. Participants using the same term but meaning completely different things can even lead to some conflicts. Therefore, dealing with such dynamics may require sensitivity and a specific skillset from the individuals facilitating or coordinating the different processes.

DISCUSSION

The objective of this research component was to investigate the perspectives of a group of key national stakeholders on the main issues regarding the operationalization and the coordination of the PAMRDC, through the use of the Q methodology. Four distinct perspectives were revealed with a striking complementarity in those views regarding critical elements of the policy process, covering altogether a large part of the policy spectrum. The diversity brought by study participants was equally reflected in the views; however, the type of organization³⁰ and the field of practice³¹ had a limited influence on the determination of participants' perspective.³²

Complementarity of perspectives regarding the policy process

The intervention perspective (factor A) covered the broadest part of the policy spectrum with reference to planning (intelligence), legitimation (invocation) and implementation (application), but primarily in the context of intervention (as opposed to a focus on the broader multisectoral action plan, except for the operationalization guide). They made a distinction between what was needed regarding different policy activities: they favored a top-down approach for planning (especially considering the limited capacity at lower levels), but favored a bottom-up approach for the implementation to leave flexibility (thus valuing knowledge of local people). They did recognize the importance of political support, but their discourse did not emphasize it. In addition, this group made a distinction between coordination and implementation: they did not think that both functions were compatible functions for SETSAN.

³⁰ For example, representatives of donor organizations were associated with factors A and C, not only with factor C that was especially concerned with issues related to funding.

³¹ For example, participants primarily working on food security issues were associated with factors A, B and D.

³² In some cases, people from similar types of institutions or fields of practice were likely to be in the same group, but generally, the groups included a certain mix of participants. Of consideration, the exact number of people from the different types of organizations and fields of practice associated with each factor was not provided in order to ensure anonymity.

The advocacy perspective (factor B) emphasized prioritizing advocacy (promotion) to politicians, to increase political awareness regarding the problem of chronic undernutrition and its solutions, in order to gain political commitment. Their view implied that increasing the awareness of many leaders would lead to political commitment and translate into a positive impact on chronic undernutrition. As presented before, the relationships between those variables are not that straightforward. Although politics and governance highly influence the enabling environment³³ in nutrition [14],” the authors of a paper from the 2013 *Lancet* Nutrition Series mentioned that solely focusing on the issues of politics and governance was not sufficient to produce results. They highlighted that “a different set of strategies and skills” was required, and that “strategic and operational capacities of different stakeholders at several levels” were of the utmost importance [14], echoing one article of the previous 2008 *Lancet* Nutrition Series [12]. Therefore, advocacy to politicians and the importance of political commitment are crucial elements to advance the agenda regarding the PAMRDC. However, the neglect of operational guidelines and plans to reach their objectives makes this group overlook the importance of different processes needed for the operationalization and implementation of the plan.

The structuralist perspective (factor C) focused on the development of structures and mechanisms for coordination and funding; they clearly referred to many specific activities involved for the operationalization of this action plan. One quote from a participant captured a frequent assumption: “on paper, we just assume it’s going to happen.” This person also referred to the idea that focal points would be in each ministry, but also emphasized that many things remained unclear in practice. This highlights that even if there was a plan, it was far from being operational and there was a need for an operationalization process that included: defining the

³³ The enabling environment in a similar context was defined as the “political and policy processes that build and sustain momentum for the effective implementation of actions that reduce undernutrition.” (Gillespie et al. 2013)

lines of authority; creating different groups and defining their roles and responsibilities; determining the linkages between groups and creating formal communication channels between them; determining how the reporting between the groups would be done and how feedback would be provided. This group also referred to additional considerations: What criteria determined eligibility to become part of the different groups? What would be discussed in those groups? How decisions would be made? How disagreements would be resolved? A participant from this group mentioned the importance of reflecting on what they were doing in order to adjust and change tactics if needed, highlighting that not everything was defined at the onset and they needed to stay flexible. One person characterized the work required as “just roll it out” by “people behind the scene.” Thus, their narrative spotlighted many activities often overlooked, reinforcing the importance of an operationalization process and that the structures and mechanisms were key.

The people-centered perspective (factor D) highlighted the importance of individuals for coordination; their narrative emphasized the social process, a critical dimension of the policy process, but a different focus from the other groups discussed primarily decision functions of the policy process. They believed individuals could make a difference and contribute to change despite the suboptimal structural arrangements. This reliance on people to reach different goals was well reflected when they said, “individuals can always be mobilized.” They referred to relationships and skills that could be developed to compensate for deficient elements and also to several strategies that could help overcome many challenges. This group was the only one that clearly focused on the social process in their narrative, processes that are “perhaps the single most overlooked dimensions of policy making” [33] (p.55). In the policy sciences, the social process includes participants, perspectives, strategies, outcomes and other elements. Therefore,

this perspective complements in a rich manner the three other views that focused more on decision functions.

Quasi-absence of policy evaluation

The first four perspectives referred to the range of the policy process from agenda setting to policy implementation, with a low presence given to policy evaluation (appraisal) in their narratives despite several statements related to data collection (for monitoring and evaluation). Nonetheless, several participants shared relevant comments for evaluation that helped provide a more complete picture when taken as a whole. One person (factor A) referred favorably to the group for monitoring and evaluation that should be formed according to the PAMRDC, in order to “manage the monitoring and evaluation activities of the plan at the national level” [26] (p.13). Another participant (factor A) expressed an opposing opinion, saying that there were already enough groups and it would only divert more energy if another were created. A different participant (factor C) mentioned that it was important to be able to show that some impacts in the field had been produced thanks to the PAMRDC, but it was a challenge requiring attention because many interventions contained in the PAMRDC were already ongoing at a limited scale, raising a relevant question: How could impact be attributed to the PAMRDC if interventions were already implemented? Overall, this low attention to evaluation might have been because this group of participants was not at that stage yet, being more absorbed with the intense work required during the operationalization process. Nonetheless, discussing and planning this stage ahead of time would definitely be beneficial. Monitoring activities should be ongoing and can provide an opportunity to shed light on problems that could be addressed earlier and to a lesser price in terms of efforts and resources, than if those problems are detected later.

Importance of terminology

These results highlight the importance of terminology. Within this policy community, there was reference to the importance of clarifying meanings in certain circumstances because even if people use the same words, they sometimes mean different things. Several examples of such a case were given in this context, for instance, the different meanings of “implementation of intervention.” In some cases, such differences in meanings of the same word might lead to unnecessary misunderstandings, tensions and conflicts, despite participants agreeing on the core concepts and ideas. This highlights the importance of exploring meanings and of clarifying ideas during discussions to ensure that when something is said, people understand it the same way or talk about the same thing. People with a certain skillset using a common terminology can help improve different aspects of communication and information sharing, while moving the discussion in a similar direction.

Functions for SETSAN

Agencies such as SETSAN were created for 3 specific functions: cross-sectoral coordination; advocacy to sustain political commitment to address malnutrition; and resource mobilization [32]. Advocacy was a major point of agreement among the perspective for a function for SETSAN. Considering that before the PAMRDC, SETSAN was in charge of the implementation of ESAN II (and is still now), their work involved advocacy within the different sectors to ensure the sectors considered food security and that their policies, plans, and actions did not compromise the food security of the population. Thus, it is not surprising that this function of advocacy is quite clear and agreed upon by participants. Considering the change in the work of SETSAN and the additional responsibility of the PAMRDC, there is a need to ensure that SETSAN’s roles respond to the new demands of its mandates, a point not discussed openly

at the time of my involvement with this community. Of consideration, the fact that the different groups somehow ranked only two functions for SETSAN similarly testifies that there was not a clear agreement or understanding of the institution's role in coordination. Related to this point, a methodological limitation must be clarified, which brings an implication for these findings: due to the forced distribution with the Q methodology, participants had a limited number of statements they could agree and disagree. This means that they probably emphasized different aspects without necessarily meaning that they were opposed to the aspects not favored.

Regarding coordination, three major aspects of coordination were highlighted and discussed in this study: functions for SETSAN, structure and mechanisms, and skills. The finding of a lack of clarity on what is expected from the institution in charge of coordination is striking. Someone from factor D explicitly raised the lack of understanding of the meaning of coordination and of the concrete actions that coordination involved. A feature of coordination is that it can be applicable to any function of the policy process; it is needed at all levels, and across levels in the overall system. Thus, it is difficult to focus and limit the scope of coordination. It is unrealistic to have SETSAN coordinate at all the different levels involved in the policy processes.

In many documents related to the PAMRDC, we find differing information related to the various decision functions of the policy process and involving SETSAN. From the terms of reference of the working group GT-PAMRDC, it is mentioned that SETSAN has “the mandate to coordinate the formulation of policies, plans and interventions of food security and nutrition in the country,” and it will “assure the coordination of the operational planning and budgeting of the PAMRDC.” From this same document, one specific objective of the GT-PAMRDC identified is “to ensure the planning and operationalization of the PAMRDC at the level of all practitioners.” In the PAMRDC itself, the strategic objective #6 aims to “strengthen the national capacity for

advocacy, coordination, management and progressive implementation of the Plan.” It is also mentioned that the multisectoral group created at the national level will “manage the implementation of the plan”[26] (p.53). Therefore, considering the scope or the extent of the policy process and that many decision functions are referred to in the various documents, it is impossible for SETSAN to carry out coordination regarding the whole spectrum of activities. This emphasizes the need to better define what their role of coordination refers to and the precise functions for which they are responsible.

Of relevance, the terms of reference took longer than a year to be developed and become official. Several reasons can be identified including the administrative difficulties and the low priority given at the beginning of the work; however, one reason for such delay may be due to the fragmented understanding that people have regarding the policy process. This limited understanding may challenge the building of a common vision. Therefore, it is imperative to better define the functions related to coordination for the institution in charge of coordination in the context of the implementation of a multisectoral action plan. Otherwise, the outcomes that SETSAN will be able to achieve with such broad and undefined tasks are questionable. Such lack of clarity and focus may explain part of why Benson (2007) believed those institutions were not fulfilling this function [32].

Findings related to the Q methodology

The present study provides a solid example of how relying solely on the statistical output of the software can lead to erroneous conclusions. On the one hand, after examining several divergent points in light of the interviews post Q sorting, it became obvious that there was more convergence because many points were only appearances of divergence. On the other hand, the differences of meanings made people look like they had a similar opinion when in fact they

meant and conceptualized things differently or emphasized different points. Therefore, this finding raises the importance of combining the statistical output with data from post Q sort interviews (and possibly participant-observation as in the present case) in order to avoid misinterpretation. This finding is important for future users of the Q methodology because a certain proportion of the current users rely solely on Q sorts, without any interviews and observations and with a limited understanding of the study context. Therefore, the implication is that some researchers may draw erroneous conclusions.

Strengths

This study presents several strengths. A first strength refers to my direct involvement within this context, which brought several advantages to the study. It allowed me to build trust with participants, which was beneficial to favor an honest sharing of opinions on controversial and more difficult topics. Knowing participants professionally and personally also allowed me to adapt the interview guide to their differing involvement regarding the PAMRDC or specific events pre-PAMRDC and solicit maximum insights. It is noteworthy to emphasize that such direct involvement of a researcher into different stages of the policy process has long been called for in the policy literature, such as with the call for prospective health policy analysis [64] and other literatures as mentioned in the introduction section. A second strength of the study refers to the study participants who were directly and intensively involved in the day-to-day activities for the operationalization of this multisectoral action plan, thus bringing the highest level of practical expertise and possible insights concerning this work. A third strength refers to the use of the Q methodology, a powerful and systematic research method providing strengths from both quantitative and qualitative methods to access the diversity of points of view in this policy community. A fourth strength refers to the interviews post-Q sorting that allowed for the

clarification of opinions and provided additional details to better characterize and describe the different viewpoints in this policy community. Those interviews were also deeper because the Q sorting exercise allowed participants to reflect on a wide range of issues related to the PAMRDC prior to the interview, allowing many relevant points to be fresh in their mind.

Limitations

This study also presents several limitations. First, many statements of the Q sample contained more than a single proposition, which differ from the single proposition that is often recommended by some authors [112]. This choice was justified in this context in order to not oversimplify complex items and to cover many relevant aspects. Providing context for several statements was also considered necessary. However, the trade off is that some participants may have “misclassified” those statements, giving more value to one proposition in the statement rather than another one. A few participants mentioned it as a difficulty when completing the Q sorting because they had to weight among propositions. Nonetheless, most of those statements were discussed afterwards during the interviews post Q sorting, allowing for the clarification of opinions. The interviews were highly considered in the analysis and interpretation of the results. In addition, the majority of participants said that their Q sort represented well their views on the different aspects mentioned and only one person really felt uncomfortable, but it was due to the forced distribution. Second, additional perspectives might be uncovered if people from other sectors were included in such a study. However, people working in nutrition, agriculture and food security were the ones most actively involved at the beginning of this work, thus, this study included mainly people from those areas. Finally, there is no claim that the identified viewpoints are consistent within individuals and across time. Time has passed and the perspectives of people may have changed. However, the value and transferability of those findings lay in that two

findings are unlikely to have changed: 1) critical elements of the policy process were identified by the main actors and experts dealing with the daily challenges of the operationalization of this multisectoral action plan; 2) the plurality, fragmentation, and complementarity of the perspectives regarding the various elements of the policy process most likely remain. Although we cannot generalize to other cases, the challenges experienced in Mozambique are important to look at because many other countries are facing similar challenges when working for the operationalization of their multisectoral action plan; this experience may provide relevant insights for other countries with similar context.

CONCLUSION

In this case study, the findings suggest that this is not so much a case of policy conflict as in many other communities. These findings support that each actor had a specialized, incomplete and fragmented understanding of the policy process. As a policy community, they are not working from a shared and explicit understanding of the policy process of which they are a part. Specifically, there is lack of clarity and agreement on issues of authority, roles and responsibilities, the way to "roll out" (invoke) and then operate (apply/application) the multisectoral action plan, capacities at different levels for different functions, etc.. This is not surprising because most people have a limited view of policy making: "[w]e often do not understand how it functions as a system" [33] (p.12). Therefore, several remaining questions deserve particular attention: How can the function of SETSAN be better defined, especially regarding coordination? What does coordination involve specifically and how can it be improved? How can operational and strategic capacity be developed? Considering the different perspectives, the question is not "who is right?" or "who is wrong?" because all participants focused on critical aspects of the policy process. The question is rather: "how can the elements of the different views be the building blocks of an overarching strategy to move forward the operationalization and implementation of the PAMRDC within the national system?"

APPENDIX G: Q sample

#	Statements
1	Several high-level people (President, Prime Minister, Ministers, Directors) know about the problem of chronic undernutrition, but as a whole, they do not seem to understand the meaning, causes or consequences and what can be done about it. While we should certainly keep advocating for high level understanding and support, I feel we can make plenty of progress even without such support and we should get on with doing what we can right away.
2	The ideal political person to ensure authority and request information regarding the PAMRDC (updates, reporting, results, next steps) from all sectors is the Prime Minister.
3	It is fine and good to get the Prime Minister's support for and oversight of the PAMRDC but in reality he will not be able to force the ministries to make significant changes only for the purpose of improving nutrition.
4	The proposed structure of the CONSAN (National Council for Nutrition and Food Security) was rejected by the Government of Mozambique due to the opinion that it would create a heavy structure. I believe that despite this decision, the Nutrition and Food Security Community could use strategic actions to strengthen commitment, coherence, consensus, and/or coordination in regards to the PAMRDC and reach great achievement even if the CONSAN is not created. Strategic actions could include identifying allies through regular dialogue and interaction; and assigning lead roles where good people are located.
5	Several donors are interested in supporting the PAMRDC, but will not commit to funding the plan until they see what the coordination will be at the higher levels. It is critical the Government define more concretely how the coordination at the higher-level will be done.
6	Some donors have expressed the interest in funding the PAMRDC, and they have sent clear messages to the Government on what is expected before funding is officially committed.
7	There is saying in nutrition that 'everyone says they want more coordination but no one really wants to be coordinated'. I think that is very much the case here in Mozambique.
8	Regarding the PAMRDC, donors are waiting that the Government defines how the plan will be funded before they commit funding.
9	"Despite some problems, SETSAN may have had to date, it holds considerable value from a policy perspective as it creates the institutional framework, or "home", for nutrition at the national level; it legitimizes nutrition as a national development priority and creates a window of opportunity for dialogue, resource allocation and monitoring of implementation." We should aim to increase its capacity to effectively carry out this role.
10	The reporting regarding the activities of the PAMRDC should be done through SETSAN, from provincial (multisectoral group) to central level (GT-PAMRDC).
11	The group called "Nutrition Partner's Forum" meets regularly. The objectives of this group are clear and there is a good communication channel between this group and the Government (especially health and agriculture).
12	"The Mozambican experience reveals that the deluge of NGOs and their expatriate workers over the last decade has fragmented the local health system, undermined local

	control of health programs, and contributed to growing local social inequality.” Conjointly, Government and partners should develop a national code of conduct for NGO activities in the health sector, in which basic principles would be proposed.
13	Currently, Mozambique experiences unprecedented momentum in the growing attention paid to the importance of improving Nutrition and Food Security. The Food Security and Nutrition community is well organized, cohesive and speaks as one voice, which will help in continuing this momentum.
14	“The planning framework in Mozambique is complex due to the extensive number of planning documents involved and respective timeframes and focus... There is a major weakness in the translation of large strategic plans into concrete actions defined to achieve objectives, with clear goals for implementation.” PAMRDC should not simply become just one more document; it must get operationalized and implemented. It is critical to develop and agree on an “operationalization guide.”
15	For the implementation of the PAMRDC, the central level needs to define clearly all the steps that need to be taken by the provinces.
16	The Food Security and Nutrition Community in Mozambique faces a variety of divisions in terms of perceptions on “what” should be done (interventions) and “how” the selected interventions should be implemented. Something should be done to build on commonalities and try to decrease differences.
17	“The Comprehensive Africa Agriculture Development Programme (CAADP), endorsed by authorities from the Governments of the continent, presents a vision for the growth of the agricultural sector, rural development and the attainment of nutrition and food security.” The CAADP appears weak in terms of the potential impact the agriculture interventions can have on the nutritional status of the Mozambican population. It is crucial to do something about this.
18	“SETSAN, in the exercise of his mandate of coordinating the formulation of policies, plans, information and interventions regarding Nutrition and Food Security in the country, was assigned by the Council of Ministers for the coordination of the implementation of the PAMRDC.” This decision was a good decision taken by the Council of Ministers.
19	The lines for the funding of nutrition activities at the provincial level are now functioning well (disbursement, accountability), which will facilitate the implementation of many activities of the PAMRDC.
20	Certain skills are necessary for good coordination. Those skills include communication skills (constructive, effective, constant). Regarding the PAMRDC, it is important to provide training to improve the skills of those who (will) play the role of facilitator for the coordination at the central and provincial levels.
21	Certain skills are necessary for good coordination. Those skills include facilitation skills such as creating a safe space for facilitating dialogue, good listening of different viewpoints, seeing the big picture and organizing a process to reach a certain point.
22	“Disagreements over interventions and strategies are an almost universal feature of the nutrition policy process...” Considering that multisectoral groups include actors with different perspectives and background, disagreements and conflicts are likely to happen. Thus, the facilitator should receive negotiation and conflict management training.
	Functions that SETSAN <u>should</u> play regarding the PAMRDC:

23	Collecting and analyzing data on nutritional outcomes in order to track overall progress at the national and provincial levels.
24	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Collecting data on process indicators to ensure that the work of the multisectoral groups from the provincial and central levels are coherent and functional.
25	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Analyzing survey data.
26	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Collect, analyze, and interpret raw data (from all sectors) and report writing.
27	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Identifying the items to be discussed, preparing the agenda for meetings of the multisectoral group, and ensuring the identification of next steps.
28	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Leading the mapping of the interventions for planning purposes at the provincial level (regarding the PAMRDC).
29	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Develop and implement some interventions (e.g. mass campaigns on chronic undernutrition).
30	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Maintaining supportive communication with each sector and arranging for technical or managerial assistance as needed, from other organizations or experts inside or outside the country.
31	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Advocating for resource mobilization (from donors) regarding the PAMRDC.
32	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Advocating for increased political awareness regarding the PAMRDC.
33	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Follow-up with concrete actions on the decisions taken by the GT-PAMRDC.
34	Functions that SETSAN <u>should</u> play regarding the PAMRDC: Collating the data from all the sectors together for reporting to higher levels.
35	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collecting and analyzing data on nutritional outcomes in order to track overall progress at the national and provincial levels.
36	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collecting data on process indicators to ensure that the work of the multisectoral groups from the provincial and central levels are coherent and functional.
37	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Analyzing survey data.
38	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collect, analyze, and interpret raw data (from all sectors) and report writing.
39	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Identifying the items to be discussed, preparing the agenda for meetings of the multisectoral group, and ensuring the identification of next steps.
40	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Leading the mapping of the interventions for planning purposes at the provincial level

	(regarding the PAMRDC).
41	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Develop and implement some interventions (e.g. mass campaigns on chronic undernutrition).
42	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Maintaining supportive communication with each sector and arranging for technical or managerial assistance as needed, from other organizations or experts inside or outside the country.
43	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Advocating for resource mobilization (from donors) regarding the PAMRDC.
44	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Advocating for increased political awareness regarding the PAMRDC.
45	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Follow-up with concrete actions on the decisions taken by the GT-PAMRDC.
46	Functions that SETSAN is <u>currently capable</u> of playing regarding the PAMRDC: Collating the data from all the sectors together for reporting to higher levels.
47	In order to be able to fulfill its functions, SETSAN needs additional and capable people. It will take several years to properly trained staff to take on these roles. We should begin arranging such training and in the meantime staff SETSAN with expatriate staff so that we can get on with the work.
48	At the provincial level, we could always benefit from having more capacity but in most provinces the overall capacity of all sectors for planning is enough to be functional and move forward with the steps expected from the central level for the implementation of the PAMRDC.
49	Considering the importance of reaching a high number of people with effective interventions to decrease chronic undernutrition, working to move forward with the implementation of community-based interventions should be one priority of the GT-PAMRDC.
50	The PAMRDC contains the priority package of interventions that need to be implemented to decrease chronic undernutrition. There is no need for further discussion and consensus-seeking on this package – we should just get on with implementing what is there and improving it over time if necessary.
51	The donor community in nutrition is generally well aligned to provide funding that complements each other for the support to the PAMRDC.
52	Global initiatives (such as the REACH Approach and the SUN Movement) influence the national nutrition initiatives in Mozambique in both considerable and positive ways.
53	Currently, the planning and decision-making processes regarding the PAMRDC are very much top-down (from central to provincial to community). If we want to have an impact in communities, we need to find ways to have more bottom-up approaches in which we will hear more from the lower levels.
54	The fact that not always the same people come to the meetings of different groups (ex.: GT-PAMRDC) is not a problem as there is generally a good follow-up between meetings.

APPENDIX H: Interview guide for the semi-structured interviews

Questions /Main themes
<p>Questions regarding the Q-sorting exercise</p> <ol style="list-style-type: none"> 1. I would like to know your impression of the exercise, was it easy, difficult, confusing, how was it? 2. Could you tell me why you have sorted the items as “strongly agree”? 3. Could you tell me why you have sorted the items as “strongly disagree”? 4. Select the statements that are the most important to gather more information on the perspectives of the interviewee (ex.: skills #19, 20, 21). 5. Are there any additional items you may have included in your own Q-set? What are those? Why are those important? 6. Are there comments that you would like to add on different statements?
<p>Background information on the multisectoral work</p> <ol style="list-style-type: none"> 7. Several events and documents led to the PAMRDC. To your opinion, what events and documents were precursor to the current multisectoral work and PAMRDC? 8. What have been your involvement regarding the PAMRDC? 9. What are some main challenges that you see are experienced regarding the coordination and implementation of the PAMRDC?
<p>Coordination</p> <ol style="list-style-type: none"> 10. In a general manner, what does coordination mean for you? [all the things that could refer to coordination]. 11. If we think in an ideal situation in which SETSAN would be doing an optimal coordination in the context of multisectoral work, what could we see in 1, 2 or 3 years from now?
<p>Achievement</p> <ol style="list-style-type: none"> 12. What do you think are the main achievements since the beginning of this whole process around the PAMRDC?
<p>Expectations on next steps</p> <ol style="list-style-type: none"> 13. What do you think is currently needed in the current context to move forward with the implementation of the PAMRDC? Could you mention some next steps? 14. There were some discussions about the “mapping of the interventions” and “document of operationalization”? Any thoughts on those steps and how you think those should be carried out? 15. What are your expectations about the REACH process? 16. Do you have any expectations regarding the SUN movement that Mozambique is part of?
<ol style="list-style-type: none"> 17. Is there anything else that you would like to add regarding the topics we discussed?

APPENDIX I: Comparison of results from centroid and principal component analysis regarding statement numbers (PCA)

Factor Procedure		A Centroid	A PCA	B Centroid	B PCA	C Centroid	C PCA
Top 10 Agree Statements A) 9/10 B) 10/10 C) 6/10 but 12/15** statements are the same from both procedures	1	14	14	2	2	5	5
	2	4	4	1	1	52	52
	3	2	2	10	18	33	15
	4	9	9	9	10	15	6
	5	32	1	34	9	32	18
	6	1	32	18	34	28	33
	7	21	10	33	29	14	20
	8	27	27	21	21	49	32
	9	10	21	29	20	20	43
	10	16	18	20	33	18	8
TOP 10 Disagree Statements A) 9/10 B) 7/10 C) 9/10 statements are the same from both procedures	1	19	19	54	15	7	7
	2	48	48	35	54	54	1
	3	35	35	48	35	1	54
	4	41	37	7	48	37	45
	5	37	42	15	16	16	19
	6	36	41	47	7	19	41
	7	54	36	16	47	41	37
	8	42	26	42	14	29	16
	9	26	54	51	44	48	36
	10	29	43	19	43	36	48
Distinguishing Statements*	1	14	14	10	10	5	5
	2	4	5	34	29	52	52
	3	27	30	29	26	15	6
	4	16	20	26	4	14	43
	5	30	33	4	36	49	8
	6	5	34	32	41	2	13
	7	33	15	41	49	9	11
	8	34	7	5	52	43	21
	9	15	23	36	14	12	34
	10	52	26	37	15	21	4
	11	7		52		30	45
	12	8		14		4	1
	13	23		30		26	
	14	40		47		34	
	15	26		15		35	
	16			7		45	
	17					1	
	18					7	

*The distinguishing statements in boldface are statistically significant at $P < 0.01$ and the ones in normal case are statistically significant at $P < 0.05$.

Comparison of results from centroid and principal component analysis (PCA) for consensus statements and divergent opinions statements regarding statement numbers

		Centroid	PCA
Consensus Statements 6/10 statements are the same from both procedures	1	50	22
	2	51	50
	3	3	51
	4	22	27
	5	46	25
	6	13	3
	7	25	53
	8	20	20
	9	39	42
	10	38	28
Divergent Opinions Statements 7/10 statements are the same from both procedures	1	1	1
	2	15	15
	3	14	14
	4	29	18
	5	52	16
	6	16	4
	7	34	9
	8	7	29
	9	26	5
	10	5	7

APPENDIX J: Statements numbers with the highest level of agreement and disagreement and the distinguishing statements by factor

Factors		Factor A		Factor B		Factor C		Factor D	
		No	Z-scores (Q-SV)	No	Z-scores (Q-SV)	No	Z-scores (Q-SV)	No	Z-scores (Q-SV)
Top 10 Agree Statements	1	14	2.27 (3)	2	1.88 (3)	5	2.17 (3)	32	2.05 (3)
	2	4	1.69 (3)	1	1.82 (3)	52	1.74 (3)	1	1.71 (3)
	3	2	1.66 (3)	18	1.82 (3)	15	1.57 (3)	21	1.61 (2)
	4	9	1.64 (2)	10	1.75 (2)	6	1.48 (2)	24	1.61 (2)
	5	1	1.41 (2)	9	1.62 (2)	18	1.48 (2)	4	1.58 (2)
	6	32	1.21 (2)	34	1.53 (2)	33	1.32 (2)	33	1.27 (2)
	7	10	1.06 (2)	29	1.47 (2)	20	1.23 (2)	31	1.22 (2)
	8	27	0.90 (2)	21	1.32 (2)	32	1.14 (2)	16	1.19 (2)
	9	21	0.90 (2)	20	1.18 (2)	43	1.05 (2)	20	1.13 (2)
	10	18	0.90 (2)	33	1.12 (2)	8	1.03 (2)	15	1.06 (2)
Top 10 Disagree Statements	1	19	-1.85 (-3)	15	-1.77 (-3)	7	-2.35 (-3)	54	-2.35 (-3)
	2	48	-1.78 (-3)	54	-1.75 (-3)	1	-1.82 (-3)	19	-2.02 (-3)
	3	35	-1.75 (-3)	35	-1.67 (-3)	54	-1.74 (-3)	7	-1.71 (-3)
	4	37	-1.59 (-2)	48	-1.67 (-3)	45	-1.48 (-2)	18	-1.27 (-2)
	5	42	-1.43 (-2)	16	-1.27 (-2)	19	-1.39 (-2)	13	-1.26 (-2)
	6	41	-1.40 (-2)	7	-1.25 (-2)	41	-1.15 (-2)	3	-1.13 (-2)
	7	36	-1.33 (-2)	47	-1.20 (-2)	37	-1.14 (-2)	51	-1.13 (-2)
	8	26	-1.26 (-2)	14	-1.09 (-2)	16	-1.14 (-2)	48	-1.09 (-2)
	9	54	-1.17 (-2)	44	-1.05 (-2)	36	-0.97 (-2)	36	-1.06 (-2)
	10	43	-1.14 (-2)	43	-0.97 (-2)	48	-0.95 (-2)	41	-1.01 (-2)
Distinguishing Statements*	1	14	2.26 (3)	10	1.75 (2)	5	2.17 (3)	32	2.05 (3)
	2	5	0.83 (1)	29	1.47 (2)	52	1.74 (3)	24	1.61 (2)
	3	30	0.75 (1)	26	0.90 (1)	6	1.48 (2)	31	1.22 (2)
	4	20	0.50 (1)	4	0.43 (1)	43	1.05 (2)	37	0.75 (1)
	5	33	0.46 (1)	36	0.00 (0)	8	1.03 (2)	46	0.61 (1)

	6	34	0.13 (0)	41	-0.05 (0)	13	0.88 (1)	29	0.35 (1)
	7	15	0.11 (0)	49	-0.13 (0)	11	0.60 (1)	43	-0.10 (0)
	8	7	0.06 (0)	52	-0.63 (-1)	21	0.17 (0)	10	-0.66 (-1)
	9	23	-0.67 (-1)	14	-1.09 (-2)	34	-0.53 (-1)	6	-0.99 (-1)
	10	26	-1.26 (-2)	15	-1.77 (-3)	4	-0.85 (-1)	13	-1.26 (-2)
	11					45	-1.48 (-2)	18	-1.27 (-2)
	12					1	-1.82 (-3)		

Q-SV: Q-sort Value

*Boldface indicates significance at $P < 0.01$. Normal case indicates significance at $P < 0.05$.

Appendix K: Additional information on data analysis for chapter 5

Chapter 5 includes a description of how the outputs from qualitative data (using Atlas.ti) and the quantitative data (using PQ software) were obtained. Both documents served as the basis for further data analysis to develop the narratives of the four perspectives revealed. This appendix describes more specifically the coding of qualitative data and how both qualitative and quantitative data were analyzed together.

Coding using Atlas.ti for each of the 54 statements

- First, the hard copies of the transcripts were all re-read and a 1st cycle coding was done manually on the transcripts to identify the content of the 54 statements within the interviews.
- While I was carrying out the interviews with the various stakeholders, I mentioned the card number (on the recording) in order to facilitate future retrieval of the content of those 54 cards.
- Second, the transcripts were all entered into the software Atlas.ti. The 1st cycle coding on the hard copy was used to facilitate the work, but the data was all re-read. This referred to applying a structural coding to the 54 statements.
- Third, a reading of all the transcripts was done while closely following the list of the 54 statements in order to code any additional parts of the transcripts that referred to the content of the topics of the 54 statements that had not been previously clearly identified.
- After this coding had been done, reports regarding the 54 cards were retrieved and printed, which served as the basis to develop the narratives and for further coding (for other chapters).
- During the analytical process, a 2nd coding with various tentative coding had been applied with a first round by writing concepts in the margins of hard copies.

Development of a document of preliminary analysis using both quantitative and qualitative data

- Once the statistical output of the PQ software was obtained and the four perspectives identified, both qualitative and quantitative data were used to develop the narratives.
- On each copy of the 54 cards, the loading for the four factors was written (e.g. card #1: 2, 3, -3, 3) to facilitate comparison between the four factors.
- A document of preliminary analysis was developed in which special attention was given to the distinguishing statements for each factor (August 2013, 41 pages). This document included a table for each factor with statement numbers, statements, z-score (*significance at $P < 0.01$ was marked) and the Q sort value for factors 1, 2, 3, and 4. Every factor had its own section in which a preliminary analysis was done.
- For each statement, qualitative data was read, looking at the z-score (for the distinguishing statement) as well as at the Q sort value for each factor. Analytical and comparative points were written in the document for each statement. When a statement had significance for more than one factor, it was discussed in the section of each factor. Findings began to emerge during the process of developing this document and the findings regarding different statements.
- During this process, a section was also developed discussing findings on emergent themes (e.g. Prime Minister, skills, capacity, formal vs. informal, coordination).
- The narrative began to develop with this preliminary document and two additional rounds of data scrutiny occurred.

- One was through rereading this document and verifying interrogations and patterns, convergence and divergence of opinions.
- The last round occurred over several weeks after a preliminary narrative had been developed for each factor. The cards were then used, and for each factor the 10 most agreed statements and the 10 most disagreed statements were reread, using the hard copies of the cards, and playing with them grouping them by topics, patterns in an iterative manner, and with qualitative and quantitative outputs reviewed when necessary. This was done for each of the four factors and end the analysis of this chapter and the development of the narratives.

CONCLUSION

Past attempts at multisectoral nutrition planning have led to disappointing results due to a variety of challenges [18, 39, 132, 133]. However, many lessons have been learned from those experiences, including the importance of understanding the policy process and how to influence it [39]. In the last few decades, an increasing number of studies on the nutrition policy process has increased knowledge that could help over 50 Scaling Up Nutrition countries achieve more positive outcomes with multisectoral nutrition. This developmental evaluation research project, in the context of multisectoral work for the reduction of chronic undernutrition in Mozambique, used comprehensive and selective lenses to examine embedded units of analysis within a case study, thus producing further insights. This dissertation presented an in-depth account of one country's experience of trying to operationalize multisectoral nutrition and an example of how the insertion of mode 2 research within that effort can enhance progress. The case study explored the challenges faced and the strategies implemented by a group of key national stakeholders, thereby illustrating how intentional strategic processes can produce meaningful outcomes in a national system. Finally, this dissertation has also proposed a framework for strategic system thinking based on the experience of practitioners in Mozambique.

The framework and the approach used in Mozambique were both in line with findings from health system researchers. They highlighted that key 'system thinking' tools and strategies have the potential for transformational change in health systems. They identified three overarching themes of such tools and strategies to add to the discussion on promising directions:

- 1) Collaboration between actors across disciplines, sectors and organizations, which is required in the whole system, and that actors need to go beyond their area of expertise;

- 2) Ongoing, iterative learning, based on the recognition of the ever-changing context, thus requiring to learn from experience;
- 3) Transformational leadership advocating for change [79].

These characteristics of ‘system thinking’ tools and strategies are important, but there are few country-level examples where they have been applied. The approach carried out in Mozambique included these characteristics, and the framework for strategic system thinking developed in this work provided additional elements that could be valuable for practitioners seeking to work within a systems framework. The framework will benefit from further testing and refinement through practical application, but even in its present form it can be used as a guiding tool by an informal strategic group of actors who want to develop effective strategies in a complex adaptive system.

The remainder of this conclusion chapter highlights key findings and identifies implications for practice and future research.

Chapter 3 demonstrated that the application of complexity concepts to examine the processes and outcomes of a national workshop brought insights about a broad range of instruments and tools for dealing with a complex system. This chapter revealed the actual and perceived outcomes of such a workshop will vary depending on the lenses used in planning, implementing and evaluating it. The use of engagement approaches for dealing with complexity provided a solid example that although complex systems are unpredictable and uncontrollable with effects that cannot be anticipated, practitioners can use strategic, intentional, complexity-aware approaches to increase the chances of reaching meaningful outcomes. This chapter also illustrated how to carry out mode 2 research in a specific context and the multiple forms of data and analysis that can be useful. Throughout the chapter, numerous strategies and tactics were

described and the results documented, revealing the importance of applying a comprehensive lens in the practice and the research. Finally, the chapter elaborated the concept and role of strategic system thinking as part of the strategic capacity.

Chapter 4 examined more specifically the decision process of the policy process. Insights were presented for planning, agenda formation and operationalization, using various sources of data including participants' narratives. Engaging various types of actors at different administrative levels into diverse processes appeared to have led to an increased commitment in the system, an important step in moving towards a system-wide commitment. For instance, engagement strategies and activities included regular consultation, collection of ideas, increased interactions, participation, and consistently framing the effort as inclusive and common work. These actions, together with official authorization, appeared to help increase the legitimacy of the actors and the movement within the national system. This chapter revealed important elements of a theory of engagement to foster commitment in a national system. This chapter also provided a conceptualization of the operationalization process to visualize how strategies to improve different issues (e.g. coordination, funding) can operate by passing through the various performance levels of a system (threshold level – tipping point – functional level – high performance level).

Chapter 5 revealed the perspectives of key national stakeholders on challenges and strategies regarding the operationalization of the PAMRDC through the use of the Q methodology. The chapter presented a narrative of the four distinct perspectives: intervention perspective, advocacy perspective, structuralist perspective and people-centered perspective. This chapter highlighted that the four views focus on different elements of the policy process, each representing a fragmented understanding. However, taken all together, the aggregation of those

views provides a rich account of the nutrition policy process related to the PAMRDC. This finding suggests that a facilitated process could be beneficial in fostering a common understanding among this group. Building on the areas of convergence among the four perspectives could be productive in helping to develop strategies based on their commonalities, because it would likely be easier to get agreement among the various actors on those strategies. In addition, the identification of the main areas of divergence could help develop strategies to address these and clarify or prevent misunderstandings.

Finally, a contribution of this research has been a “proof of concept” that this type of study could be carried out under mode 2, using an emergent design to respond to the evolving context and examining emergent research questions generated through direct involvement.

Implications for practice

This study has considerable implications for practice considering that it provided ample examples of how practitioners can use different types of tools that can help them address some of their challenges in an important way. Indeed, the knowledge created appears to be relevant to a large number of cases considering the evidence-based context in which interventions to improve health are implemented. Thus, this dissertation begins to highlight that a different way of thinking may be necessary in nutrition if we are to implement better interventions considering that we know the types of interventions to address complex health problems, but the field has a more limited understanding of the larger nutrition policy process in which our actions are inserted. Four specific insights can be of use to practitioners, and are briefly presented below in the form of advice.

Consider the use of strategic system thinking to increase the likelihood of reaching high-quality outcomes in a complex system

The framework for strategic system thinking can be valuable in raising awareness about the importance of several strategic dimensions in the operationalization process. The evaluative framework to assess first, second and third order effects is an important asset in this process, to help remind practitioners that their actions may produce different types of outcomes with significant triggering effects in a complex system. Some of these effects may be intangible, but critical nonetheless to fostering a favorable environment for multisectoral nutrition work. The framework for strategic system thinking explicitly questions how second and third order effects could be re-catalyzed, amplified and extended in the system.

Build the operationalization through incremental actions that can help reach tipping points on various issues

The “conceptual ordering” based on an approach of grounded theory has helped to develop a visualization that could be useful to practitioners and appears to be an area worth further exploring. Indeed, this visualization can help practitioners, who face multiple and diverse challenges, understand how all the pieces fit together, and envision what strategic actions might trigger critical tipping points so various parts of a system can reach functional levels of performance. In addition, this visualization shows that once a number of issues have reached a functional level, a system is more likely to become functional. At that point, additional inputs could be small-input-for-high-gain, compared to the more high-input-for-small-gain more typical at the beginning of the operationalization process.

Frame the actions as a learning process involving an informal strategic group of key stakeholders

An important part of this work is responding to what cannot be fully anticipated and controlled. Thus, framing the actions (strategies, tactics, interventions) as a learning process in which actors can develop strategic actions, gather feedback and learn from each other in a timely manner appears to be an effective way to constantly adapt to what emerges within a context. Such endeavors seem to benefit from informal channels and social relationships that counteract the delays and inefficiency frequently seen with formal processes. The formal processes are important to legitimize actions, but they often are too slow to respond to the constantly arising pressures of the work and cannot seize windows of opportunities. Formal and informal channels have different strengths and both can play a significant role in advancing multisectoral nutrition work if they are combined and utilized.

Engage various types of actors in the national system to gain system-wide commitment

Attaining legitimacy has been found to help gain momentum. Ensuring and reinforcing the official authorization for the work can be especially important for many actors in a national system. This, together with a strategy of engaging many actors in many ways, can play a critical role in providing system-wide legitimacy commitment. The findings and discussion about legitimacy stemmed from a “personal introversive reflection” in which the emergent patterns in the findings were corroborated at the smaller unit level with my own experience. This represents an advantage of such direct participation, and also brings challenges, as illustrated throughout the dissertation.

As a final word, considering the focus of this dissertation on improving practice, I have written an open letter to facilitators (in **Appendix L**) who are tasked with supporting key national

stakeholders to operationalize multisectoral nutrition, in order to share further practical insights that may be useful to them.

Implications for future research

The wealth of experiences accumulating in the Scaling Up Nutrition countries represent an important opportunity to gain further insights about the concepts and processes discussed in the present study, notably operationalization and the role strategic system thinking in advancing it. One particular example is coordination: what does it involve, and what are the structures, skills and institutional anchorage and support needed to achieve it? Another key area is to explore the type of training and the skillset that facilitators need in order to be effective in supporting the country teams. Finally, this dissertation has focused primarily at the national level and there is an urgent need to understand the challenges, strategies and supports needed at the various sub-national levels.

Appendix L: Letter to facilitators

July 2014

Dear facilitators,

I hope you are all well in your parts of the world. The last months of intensive analysis and writing for my dissertation has provided me with an opportunity to reflect on my experience working at the central level within the Ministry of Health in Mozambique. I would like to share with you some insights that I thought might be helpful to you at some point.

What do I believe worked well? A national workshop, intentionally and strategically designed as a major event in a complex adaptive system, acted as a catalyst to multiply actions in the national effort to address chronic undernutrition. I believe an effective element was to engage a diverse group of actors from different sectors, at various administrative levels and at all stages (planning, implementation and follow-up). This participation of many actors in various parts of the development of the workshop even extended to high-level individuals (through participating in a video and attending the workshop), which helped to frame the event as a common work in which many actors were contributing. As the actors involved belonged to diverse groups, the workshop was one opportunity to foster cross-boundary linkages and give a high visibility to the issue. The workshop appeared worthwhile in this context to move the momentum from the central level to the provinces because it allowed various actors in the provinces (from Government and NGOs) gaining legitimacy to take leadership regarding the PAMRDC. Presenting a concrete experience of multisectoral nutrition planning in one province served as a positive model motivating all the provinces, through showcasing how it was being accomplished in one province.

What else could have been done? Alternative strategies giving a high visibility to the problem of chronic undernutrition, as well as a legitimacy to act, might also have produced meaningful outcomes at a different and significant scale, even if not at the national level. The national workshop was very time-consuming and required tremendous work and financial resources, especially due to the travel expenses. Planning a different high visibility event (workshop or other) with only 2-3 provinces could have been a valuable option, even with support from the central level, for example, to organize a provincial workshop. An advantage of a provincial workshop could have engaged the Governors and local authorities, which is critical considering the decentralization process; it could potentially have produced a higher, less costly, effect in the provinces, and contributed to local capacity building. This strategy could also have been an effective follow-up to the national workshop – to ensure that the multiple streams of ripples or benefits from the national workshop would be intentionally amplified rather than solely dependent on the presence or absence of personal initiative among provincial actors who had attended the national workshop. This is where I think that the framework for strategic system thinking presented in this dissertation and created from the experience in Mozambique could be helpful, not as a directive, but as a guide for the development of effective strategy seeking to address numerous challenges within complex systems.

What did I learn from Government? Governmental institutions often do not have a good reputation in developing countries, with reproaches of inaction, limited capacity or heavy bureaucracy. In most of the sectors and departments that I have exchanged or worked with, I have

discovered very capable individuals truly committed to their work and demonstrating their convictions that the improvement of the life of Mozambicans required strong governmental institutions working for its population. The most effective way I saw development partners could support the Government was when they recognized the leadership of Government and through having an ongoing and positive dialogue with actors from Government. With such relationship, the technical assistance and/or support was the most valuable, which emphasizes the importance of relationship between actors. The informal channels and social network created also partly counteracted the slow pace to move things forward. In nutrition, a small informal strategic group developed trusting relationship; one of its strengths was that every actor recognized each member had its own expertise, constituency, and legitimacy to intervene in different contexts. Leadership roles were somewhat determined by the issue to be dealt with. Such an informal group proved an asset to face the numerous pressures and respond to the various urgencies coming from the different and respective institutions represented: Government, UN, donor, and NGO. I also learned that high-level actors from Government and partners organizations might be difficult to reach but they can become accessible with joint efforts and they often appear to welcome comments and suggestions to address challenges, even those from mid-level actors from Government and partners. Therefore, clear and concise messages developed and delivered in a positive manner through strategic actions can produce effects and influence a large scale.

What served me well? Being involved in many groups and having the chance of crossing boundaries provided me with a unique opportunity to notice misunderstandings, connect dots, and see the larger picture. This is where I felt it was my responsibility to speak up and try to develop a process to improve the situation when a challenge was apparent, asking myself, how I could make things easier or be helpful to the situation. It was sometimes a small thing such as listening someone who was in a difficult situation. It also involved proposing a meeting for clarification when a need was felt, after discussing with other actors their perception on an issue. It was also by helping identify and clarify misunderstandings (e.g. objectives of an exercise). Instead of telling others what to do, I tried to ask questions so actors could reflect further on the points raised, finding their own answers for this context. I also tried to be resourceful and connect actors when I thought potential collaboration could be productive. Tips learned from training in negotiation and conflict management served me well since tensions did occasionally rise. Rather than taking sides when tension of conflict arose, I tried to listen to the different sides and think of a process that could be helpful. A developmental facilitator or any cross-boundary agent can help foster positive relationships. I also use the “I” in difficult conversations to express my perception and feelings, to not be accusative of others, and to have a more productive dialogue. In this context, it was important to adapt, be flexible and able to work with uncertainty and unpredictability. Working as a team, we can achieve so much more, especially in such context of interdependence. Trying to find unifying ways, and pushing in the same direction was a productive approach in lieu of trying to get individual work credit (personal or institutional).

What is important to stay alert to? I have learned that being a cross-boundary actor or someone who plays different roles brings ethical issues that are important to stay alert to. It happened to me especially when I began to work for the Government and I could still attend meetings with donors and NGOs (because of previous involvement), but others from the Government could not. It was a contradiction that I raised even though some actors (including myself) found it helpful to be able to exchange information between the Government, donors and NGOs. However, some

actors thought other forums were present for that purpose so I ended up not attending anymore of the formal donor/NGO meetings. At that time, it was the easiest way to resolve the issue but I believe a cross-boundary agent can be advantageous and even required in this type of multisectoral environment. For instances, it can help for alignment, information-sharing, planning of an event and so much more. A potential solution could be to have a type of code of conduct for actors playing a cross-boundary role or multiple roles, because otherwise, opportunities to foster synergies between actors and organizations can be missed. Another ethical issue involved with crossing boundaries refers to the need to be careful about the information we share either in conversation or with the people copied on an email because we have access to privilege information.

What do I wish I had tried? In Mozambique, actors at the central level spend a considerable amount of time in meetings, for their own organization or for various working groups. This is one manifestation of their interdependence to carry out their work. I have experienced myself, and heard multiple times, that actors would spend full days in meetings and had to start working at night because of those continual meetings. Also, so many meetings lasted double the time needed because people arrived late and an inefficient use of time. This is definitely an area where I think an improvement could be beneficial for the overall work. Some examples of actions that could be tried: ground rules can be developed, which could include arriving on time; make sure that it is clear what everyone has to do in-between the meetings and find ways to ensure that people do the work (through sending electronic communication, asking for updates, offering help if problems occurred); and divide the work in small groups and share these parts during a larger meeting (instead of doing the actual work from the beginning in a meeting with many actors). Also, writing informal minutes that consume less time than the formal ones may be more useful and realistic and help people to stay engaged and informed of the latest developments even if they missed a meeting. Despite those efforts, people could still move in and out of some working groups, which I think is normal, but when meetings are well organized, more efficient, interesting and leave the impression that actors gain from attending them, people are more likely to attend, helping to address the problem of continuity in attendance. Despite that we tried to do some of those, it was implicit and more on an individual basis. Being more explicit and trying to address those challenges at a larger scale could help parts of the system to work more efficiently.

What were challenging and helpful for research purposes? Several things helped to carry out research, during the experience and after, for the analysis. Developing an effective documentation system by collecting regular data in various forms was very valuable. The use of developmental evaluation appeared to be effective for research purposes because of an ongoing data collection on different aspects that helped in documenting processes and outcomes. It also encouraged the development of different types of feedback to be used in the system, which was an important additional means for documentation. One challenge regarding research (but also frequent in practice) was often experiencing a feeling of risk when research components are emergent and I did not know what was going to be the core of my research focus. Learning to be able to deal with ambiguity and uncertainty was essential through sharing with others and writing about it when I could. I should probably have reserved daily time for reflection, even if just a few minutes, but it was very difficult to do. Using a tape-recorder could have been an alternate effective option and help do more reflection-in-action. Going through the conventional process to

obtain approval from an ethics committee was another challenge due to many emergent elements (questions and methods), but the use of addendum was helpful and necessary.

What would I do differently? My work was primarily at the central level, but if I had to do it again, I would try to work more closely with one or some provinces to better understand their realities. Actors at the provincial level are key for the implementation of multiple interventions. The central level tried to support them as much as possible, but there was still disconnect between provincial and central levels. The planning of the workshop was a great opportunity to develop relationship with potential actors, but I wish I had gone to the provinces, maybe through supporting one team as it was discussed at some point. This would have provided us with a concrete example on the challenges they experience. Despite that vertical linkages existed, the central level was often still far from understanding the provincial working reality. Provinces already have their planning period and timeframe and a better understanding of the different types of planning could have helped to ensure that interventions to improve nutrition were included in their plans. More involvement directly with the provinces could have also facilitated the development of the operational plans for the PAMRDC. In addition, a different but related thing I would do differently is to engage earlier the different sectors by beginning with finding allies. For a long time, the multisectoral work was done primarily by actors working in nutrition and food security, due to experiencing already challenges to organize ourselves. However, I think it would have been highly beneficial to find earlier several key actors from all of the sectors. It could also be valuable to have presentations in all the sectors to increase awareness about the problem of chronic undernutrition, emphasizing the role that people from the respective sector can play in addressing the problem of chronic undernutrition.

What are some lessons learned? Getting involved in an area is likely to lead to becoming an active participant of that community, which is the way I began approaching the food security and nutrition community. By consulting many actors to better understand the context, this led me to building trust and relationships with actors, one-on-one, which multiplied the possibilities. The opportunity to work for the Government was key to be at the core of the work. Becoming part of this community and a small informal strategic group led to productive, stimulating and enjoyable work, and made my experience truly unique. Developing a national workshop gave me a legitimacy to intervene and a great understanding of the multi-organization, multi-level context. Throughout the development of the workshop, I could investigate many things that were happening in different regions, in a non-threatening way, by focusing on building something with the various actors involved. Other types of activities could offer such an access and legitimacy; it was a positive role to play that opened many doors, an entry point to interact and build relationships with people in the whole national system.

Finally, I am convinced that you could add many more lessons to this letter and I hope you do at some point, because taken all together, those insights can be valuable sources of knowledge to generate ideas on how we could improve our work and make progress regarding multisectoral nutrition work in developing countries. As a last word, despite having faced many challenges, my experience in Mozambique has been one of the most intense, stimulating, and rewarding in my life and I hope yours is also very positive. There are many challenges, but strategies and solutions can help incrementally addressing them. I wish you best of luck in your projects, and do not forget to create enjoyable moments. Isabelle

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